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The ASCB and EMBO have assigned all abstracts to poster boards with the letter “B” followed by a number. Please place your poster on the board you were assigned at the date and time indicated in your notification email.

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From Thursday, November 30, through Wednesday, December 6, registered meeting participants will be able to visit a password-protected website to search and view abstracts, uploaded posters, and slides. This will allow participants who miss posters or presentations they were hoping to see view them, and connect with the presenter. Participants will be able to contact the presenter with any questions directly through this website. To search and view the abstracts/posters visit: http://www.ascb.org/amabstract. A login and password was sent on to all attendees registered by November 27. This information is also provided to all meeting participants when they pick up their badge in the Registration area.
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Sunday Poster Session

Learning Center, Exhibit Halls D-H

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**Poster Presentation Guidelines**

- Presenters should ensure their posters are placed on the appropriate poster board for the duration of their assigned poster session and viewing. Please use the number starting with “B” for your poster board.
- Poster presenters should stand at their poster locations during the appropriate 90-minute time slot—odd board numbers, 12:00-1:30 pm or even board numbers, 1:30-3:00 pm. The specific time slot is included in the original poster notification emails sent on October 31. If presenters have to leave early, they should post a note on their boards with contact information or stating when they will be available to answer attendee questions.
- IMPORTANT! Poster presenters are solely responsible for placing and removing their poster according to the schedule provided above. If you are unable to set up your poster the evening before your session, please do so the morning of your presentation.
- Poster presenters should not leave any items unattended at their poster board, including poster tubes, meeting bags, Programs, Poster Guides, personal items, etc. The ASCB and EMBO are not responsible for any items left in the Learning Center.
- Cameras/Photography: Cameras and all other recording devices are strictly prohibited in all session rooms, in the Learning Center, and in all poster and oral presentation sessions.
Sunday Poster Session

B1/P1001 Training Transitions: From Research Dependence to Independence. H. Singh1,2, A. Bankston1, G.S. McDowell1,2; Future of Research, Abington, MA, 3University of Illinois at Chicago, Chicago, IL, 4Manylabs, San Francisco, CA

B2/P1002 A novel, unsupervised machine-learning model that guides graduate students in writing better organized and more structured texts. J. Vera1, H. Allende-Cid1, S. Rodríguez2, W. Palma1, R. Venegas3, S. Zamora3, F. Lillo1, H. González3, A. Van Cott3, E.N. Fuentes3,4; WriteWise, WriteWise Research Group, Artificial Intelligence Unit, Santiago, Chile, 5Escuela de Ingeniería Informática, Pontificia Universidad Católica de Chile, Valparaíso, Chile, 6Instituto de Literatura y Ciencias del Lenguaje, Pontificia Universidad Católica de Chile, Valparaíso, Chile, 7BioPub, Scientific Writing Unit, Santiago, Chile

B3/P1003 Extending a journal club style discussion from the lab to the classroom. M.T. Juarez1; Biomedical Education, City College of New York, New York, NY

B4/P1004 Planning Your Scientific Journey: Outcomes from an Online Life Science Professional Development Course. A.M. Schnoel1, S. Behrman2, N. Griffin1, D. McQuillen1, N. Green1, E. Kirschner1, S. Goodwin1, R.D. Vale1; iBiology, San Francisco, CA

B5/P1005 Flipped Science Fair. L. Benedetti1,2,3, R. Crouse4; Department of Neuroscience, Yale University School of Medicine, New Haven, CT, 5Department of Cell Biology, Yale University School of Medicine, New Haven, CT, 6Yale University School of Medicine, Howard Hughes Medical Institute, New Haven, CT, 7Yale University School of Medicine, Program in Cellular Neuroscience, Neurodegeneration and Repair, New Haven, CT, 8Yale University School of Medicine, Interdepartmental Neuroscience Program, New Haven, CT

B6/P1006 Mentorship for Developing course-based undergraduate research experiences (CUREs): The Council on Undergraduate Research (CUR) Mentorship for Integrating Research Into the Classroom (MIRIC) program. M.J. Wolyniak1,2, K.K. Resendez1,2; Biology, Hampden-Sydney College, Hampden-Sydney, VA, 3Council on Undergraduate Research, Washington, DC, 4Biology, Westminster College, New Wilmington, PA

B7/P1007 Berkeley Undergraduate Research Evaluation Tools (BURET) Study: Overview & Year 1 Findings. L.E. Cote1, M. Helix1, C. Stachi1, E.M. Stone1, A. Baranger2; University of California, Berkeley, Berkeley, CA

B8/P1008 A Curriculum-Wide “Pipeline CURE” Provides an Alternative to Apprentice-Style Research Experiences for Biology Student Cohorts at a Primarily Undergraduate Institution. T.W. Lee1, B.S. Carpenter1, O. Birol1, L.J. Hayes1, D.J. Katz2, K.L. Schmeichel3; 1Department of Cell Biology, Emory University, Atlanta, GA, 2Behavioral Sciences Division, Oglesby University, Atlanta, GA, 3Natural Sciences Division, Oglesby University, Atlanta, GA

B9/P1009 Understanding the Role of Self-Reflection in a Course-Based Undergraduate Research Experience. C. Mishra1, K.L. Daniel1, K.K. Clase1; 2Biotechnology, Innovation and Regulatory Science Center, Purdue University, West Lafayette, IN, 3Biology, Texas State University, San Marcos, TX

B10/P1010 Embedding short-term research experiences in Biology curriculum enhances student engagement with science process. L.L. Dahlberg1, B. Wiggins1, S.R. Lee1, H. Jordan1, L. Lily1, A. Great Carmona2; 1School of Interdisciplinary Arts and Sciences, University of Washington, Tacoma, WA, 2Biology, University of Washington, Seattle, WA, 3Biology, Western Washington University, Bellingham, WA

B11/P1011 Research-in-the-classroom as a means to improve interest in STEM for multiple community college students. C. Priano1, L. Jayant1; Science, Borough of Manhattan Community College, New York, NY

B12/P1012 Same curriculum, different mice, different student outcomes: A comparison of a traditional lab course and a course-based undergraduate research experience. K.M. Cooper1, T. Hendrix1, K.M. Cooper1; J. Blattman; 2School of Life Sciences, Arizona State University, Tempe, AZ

B13/P1013 Helping Students SOAR: Engaging Underrepresented Minority Undergraduates in Developmental Biology. R.M. Kao1; 1Science Department, Heritage University, Toppenish, WA

B14/P1014 Development of BioVEDA: An assessment tool to measure student understanding of biological variation with respect to experimental design and analysis. J. Hicks1, J. Dewey2, A. Schuchard2, A. Genetic, Cell Biology, and Development, University of Minnesota, Minneapolis, MN, 2Biology Teaching and Learning, University of Minnesota, Minneapolis, MN

B15/P1015 Assessment of using Forensic Science as an Engagement Tool for Student Success in General Biology. C.A. Jones1; 1Biology, Lane College, Jackson, TN

B16/P1016 Modeling Human Problems with Slime Mold can Attract New Students to Science and Teach Important Skills. M.J. Dobro1; 1School of Natural Sciences, Hampshire College, Amherst, MA

B17/P1017 Implementation of a CURE module investigating yeast mating and cell fusion to build student research skills within the curriculum. A.C. Engel1; 1Department of Biology, Mills College, Oakland, CA

B18/P1018 Incorporation of CRISPR/Cas9 into a semester-long investigative lab on the cell biology of C. elegans. S.K. Olsen1, 2Biology, Pomona College, Claremont, CA

B19/P1019 Integration of CRISPR into the undergraduate curriculum. J. Pieczynski1, L. Ke1; 1Department of Biology, Rollins College, Winter Park, FL, 2Department of Biology, Stetson University, Deland, FL

B20/P1020 CRISPR-Cas9 technology in the undergraduate student lab: take one. H.K. Clayton1, N.M. Deese1, D.M. Johnson1, A.S. Rockenbach1, K.S. Sansverie1, M.S. Santisteban1; 2Biology, University of North Carolina at Pembroke, Pembroke, NC

B21/P1021 The Genomics Education Partnership: A Model for Successful Course-based Undergraduate Research Experiences. M. Van Struy1, J.E. Bedard3, A.S. Haberman1, J.D. Marchette1, T. Sadikot1, J.S. Sanford1, M.S. Santisteban1, D. Lopatto3, W. Leung1, A. Rosenwald1, L.K. McQuillen1, 2Biology, Lane College, Jackson, TN, 3Biology, University of the Fraser Valley, Abbotsford, BC, 4Biology, University of San Diego, San Diego, CA, 5Biology, Harris-Stowe State University, St. Louis, MO, 6Biology, Washburn University, Topeka, KS, 7Biology, Ohio Northern University, Ada, OH, 8Biology, UNC at Pembroke, Pembroke, NC, 9Psychology, Grinnell College, Grinnell, IA, 10Biology, Washington University in St. Louis, St. Louis, MO, 11Biology, Georgetown University, Washington, DC, 12Biology, University of Alabama, Tuscaloosa, AL

B22/P1022 Annotation of gene features in Drosophila takahashii using a computational-genomics approach. J.P. Barnell1, T. Sadikot1; 1Department of Biology, Washburn University, Topeka, KS

B23/P1023 A course-based research experience for undergraduate students that incorporates cell signaling, computational, and modeling skills. R. Kurt1, C. Liew1, 2Biology, Lafayette College, Easton, PA, 3Computer Science, Lafayette College, Easton, PA

B24/P1024 Development of the NIBLS Learning Resource Collection using Incubators. W.R. Morgan1, S. Donovan1, H.C. Orndorff1, S.E. Robertson1, E.F. Ryder1, M. Sierk1, A. Rosenwald1, E. Dinsdale1, E. Trippett1, M. Pauley1, W. Tapprich1, 2Biology, College of Wooster, Wooster, OH, 3Biological Sciences, University of Pittsburgh, Pittsburgh, PA, 4Psychology Neuroscience, University of North Carolina, Chapel Hill, NC, 5Biology and Biotechnology, Worcester Polytechnic Institute, Worcester, MA, 6Bioinformatics Program, Saint Vincent College, Latrobe, PA, 7Biology, Georgetown University, Washington, DC, 8Biology, San Diego State University, San Diego, CA, 9Microbiology and Cell Science, University of Florida, Gainesville, FL, 10School of Interdisciplinary Informatics, University of Nebraska at Omaha, Omaha, NE, 11Biology, University of Nebraska at Omaha, Omaha, NE

B25/P1025 Inspiring Cell Biology Classroom Innovation with the Journal CourseSource. M. Smith1, E. Vinson1, J.E. Blum1; 1Ecology and Evolutionary Biology, Cornell University, Ithaca, NY, 2School of Biology and Ecology, University of Maine, Orono, ME, 3Biology Teaching and Learning, University of Minnesota, Minneapolis, MN

B26/P1026 Service-Learning influences student civic engagement and sustainable practices in a large enrollment non-majors introductory biology class. S. Raut1, J.M. Bhatt1, D. Mendoza1, S. Adkins1, J. Morris1; 1The University of Alabama at Birmingham, Birmingham, AL, 2College of Science Chemistry, University of Texas at El Paso, El Paso, TX
New Technologies in Cell Biology 1

B35/P1034 Fabrication of retinal pigment epithelial cell sheets using a closed culture system for regenerative medicine. E. Matsumoto1, N. Koida1, H. Hanawa1, M. Kiyama1, J. Kuwabara2, S. Takeda3, M. Takahashi1, Hitachi, Ltd., Hyogo, Japan, 1RIKEN Center for Biosystems Dynamics Research, Hyogo, Japan, 2Sanpatec Co., Ltd., Osaka, Japan

B36/P1035 Genetically characterized cell lines to study human development and disease. C. Kenny1, A.T. Kodani1,2; 1Genetics and Genomics, Boston Children’s Hospital, Boston, MA, 2Pediatrics, Harvard Medical School, Boston, MA

B37/P1036 Development of a Functional Readout for Assessment of Excitation-Contraction Coupling of Human Induced Pluripotent Stem Cell Derived Cardiomyocytes. X. Zhang1, Y. Assab1; 1ACE Biosciences, San Diego, CA

B38/P1037 Enhancing chemotaxis of enucleated cells by genetic engineering. F. Watson1,2, H. Wang1,2, C.N. Alarcon1,2,3, B. Liu1,2, R.L. Klemke1,2,3; 1Pathology, UC San Diego, La Jolla, CA, 2Moore’s Cancer Center, UC San Diego, La Jolla, CA, 3Biomedical Sciences Program, UC San Diego, La Jolla, CA

B39/P1038 Enucleated cells as delivery vehicles to treat cancer. C.N. Alarcon1,2,3, H. Wang1,2, B. Liu1,2, F. Watson1,2, S. Searles1, C. Lee1, J.D. Bui1, R.L. Klemke1,2,3; 1Moore’s Cancer Center, UC San Diego, La Jolla, CA, 2Biomedical Sciences Program, UC San Diego, La Jolla, CA, 3Pathology, UC San Diego, La Jolla, CA

B40/P1039 Enucleated Cells: A Novel Platform for Delivering Oncolytic Viruses to Treat Metastatic Cancer. B. Liu1,2, H. Wang1,2, C.N. Alarcon1,2, F. Watson1,2, R.L. Klemke1,2,3; 1Pathology, UC San Diego, La Jolla, CA, 2Moore’s Cancer Center, UC San Diego, La Jolla, CA

B41/P1040 Scalable method for isolation of pure and functional exosomes from cell culture media. s. paul1, H. Branscombe1,2, Maheshwati2, S. Jacob1, J. Wells1, D. Yin1, R. Newman1, 1ATCC Cell systems, Gathersburg, MD, 2American Type Culture Collection, Manassas, VA, 3Laboratory of Molecular Virology, George Mason University, Manassas, VA

B42/P1041 Development of camellid nanobody-based LAMPole diagnostic tests for dengue and Zika viruses. D.J. Grab2, A. Sharma1, I. Burubulis1,4, A.T. Lehner1, V.R. Nerurkar1, S. Magee2,6, D.J. Grab1; 1Uniformed Services University, Baltimore, MD, 2Johns Hopkins University, Baltimore, MD, 3University of Virginia, Charlottesville, VA, 4Universidad San Sebastian, Puerto Montt, Chile, 5University of Hawaii at Manoa, Honolulu, HI, 6Ghent University Global Campus, Incheon, South Korea, 7Vrije Universiteit Brussel, Brussels, Belgium

B43/P1042 The “Helene Medium”: specialized stem cell culture medium. C. Yang1, T. Matsuoka1; 1STEMCELL Co., Ltd., Tokyo, Japan

B44/P1043 Using BioID as a tool to explore the endosomal interactome of RME-8 and SNX-1 in C. elegans. S.B. Swords1, G. Heske1, A. Gingras1, B. Grant1; 1Molecular Biology and Biochemistry, Rutgers University, Piscataway, NJ, 2Lunenfeld-Tanenbaum Research Institute, Toronto, ON

B45/P1044 u-track 3D: A tracking framework to quantify, observe and integrate cellular dynamics in three dimensions. P. Roudot1, W. Legant1, K.M. Dean1, A. David1, D.W. Gerlich1, R. Florka1, E. Betzig1, G. Danuser2; 1Lyda Hill Department of Bioinformatics, UT Southwestern Medical Center, Dallas, TX, 2Janelia Farm Research Campus, Ashburn, VA, 1Department of Cell Biology, UT Southwestern Medical Center, Dallas, TX, 3Institute of Molecular Biotechnology of the Austrian Academy of Sciences, Vienna, Austria

B46/P1045 Bioinformatics Methods for Extracting Information from Still and Video Images. R. Phanthong1,2, A. Zahedi1,2, V. On1, A. Chaili1, G. Remark1; 1Cell, Molecular, Developmental Biology, University of California, Riverside, Riverside, CA, 2Molecular, Cell and Systems Biology, University of California, Riverside, Riverside, CA, 3Department of Bioengineering, University of California, Riverside, Riverside, CA, 4Department of Electrical and Computer Engineering, University of California, Riverside, Riverside, CA

B47/P1046 Machine learning powered parameter-free 2D and 3D image segmentation and object analysis pipeline. M. Jones1, H. Lai1, C. McBride1, S. McElroy1, J.S. Lee1, L.A. Lucas1; 1IDR Vision Technologies LLC, Bellevue, WA

B48/P1047 Deep learning enabled neurite segmentation and circuit analysis in retina development. H. Sasaki1, W. Yu1, C. Huang1, R. Wong1, J.S. Lee1, L.A. Lucas1; 1IDR Vision Technologies LLC, Bellevue, WA, 1Biological Structure, University of Washington, Seattle, WA

B49/P1048 A new open source toolkit for segmenting 3D intracellular structures in microscopy images. S.M. Rafelski1,2, Allen Inst for Cell Science1,2; 2Allen Institute for Cell Science, Seattle, WA

B50/P1049 Quorum: Crowdsourcing image tracing through an engaging painting game. J.H. Iwasa1, J. Lin1, K. Santiago1; 1Biochemistry, University of Utah, Salt Lake City, UT

B51/P1050 CORBEL: Facilitating access to European Research Infrastructures. J. Ellenberg1, A. Keppeler1, F.C. Leitner1; 1Cell Biology and Biophysics Unit, European Molecular Biology Laboratory (EMBL), Heidelberg, Germany

B52/P1051 Cell Migration Analysis Using Automated Cell Imaging. R. McMillan1, J.A. Hesley1, J. McMillan4, M. Thomas3; 1Molecular Devices LLC, San Jose, CA, 2Platypus Technologies Inc., Madison, WI

B53/P1052 Information processing in an animal lacking neurons or muscles: Phototaxis in Trichoplax adhaerens. C. Chai1, L. Kuo1, C. Aiello1, M. Prakash1; 1Bioengineering, Stanford University, Stanford, CA
New Technologies in Cell Biology: Fluorescence

B65/P1055 Identification of kinetic neurodegeneration events in patient-derived cell models. J.S. Lee1, T. Cheng1, T. Onishii1, C. Huang2, H. Sasaki3, M. Jones1, Y. Shi4, M. Hattori1, J. Ichida1, T. Naga1i; 2IDRvision Technologies LLC, Bellevue, WA, 3Department of Biomolecular Science and Engineering, Osaka University, Osaka, Japan, 4Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research, University of Southern California, Los Angeles, CA

B67/P1064 Designing bright, red-shifted, calcium indicators. C. Deo1, J. Seoi2, L.D. Lavis3; 1Janelia Research Campus, Howard Hughes Medical Institute, Ashburn, VA, 2School of Biology, Georgia Institute of Technology, Atlanta, GA, 3Department of Neurobiology, Columbia University, New York, NY

B68/P1067 Sensors of Extracellular ATP for Interrupting Purinergic Signaling and Intracellular Second Messenger Dynamics in Neurons and Astrocytes. D. Chogler1, S. Valentino1, J. Conley1, S. Min1, E. Colombi1, M. Tantama1; 1Chemistry, Purdue University, West Lafayette, IN

B70/P1069 A suite of Fluorogen-Activating Protein (FAP)-tagged vectors and organelle markers enables quantifiable dye-activated selective imaging of location-specific protein pools. N.A. Hagner1,2,3, J.B. Mueller1, A.V. Zhdanov1, S.M. Borisov1, V. Tytsarev1, V. Tsytsarev2; 1School of Biochemistry and Cell Biology, University College Cork, Cork, Ireland, 2Institute for Functional Connectomics, Brain Science Institute, Korea Institute of Science and Technology (KIST), Seoul, South Korea, 3Department of Cellular and Molecular Physiology, Yale University School of Medicine, New Haven, CT

B71/P1070 Optimizing Leading Edge F-actin Visualization Using Multiple Actin Probes and Staining Methods Across Different Imaging Modalities. V. DesMarais1,2,3, R.J. Eddy1, V.P. Sharma1, O. Stone1, J.S. Condeelis1,2,3; 1Anatomy and Structural Biology, Albert Einstein College of Medicine, Bronx, NY, 2Analytical Imaging Facility, Albert Einstein College of Medicine, Bronx, NY, 3Gruss-Lipper Biophotonics Center, Albert Einstein College of Medicine, Bronx, NY

B72/P1071 Highly multiplexed and sensitive in situ protein imaging with signal amplification using immuno-SABER. S.K. Saka1,2, Y. Wang1,2, J.Y. Kishi3,2, B.J. Beliveau2, A. Zhu4, S. Lapan1, G. Pihan1, P. Yin1,2; 1Wysc Institute for Biologically Inspired Engineering at Harvard University, Boston, MA, 2Systems Biology, Harvard Medical School, Boston, MA, 3Genetics, Harvard Medical School, Boston, MA, 4Hematopathology, Beth Israel Deaconess Medical Center, Boston, MA

B73/P1072 Development of designer RNA-binding protein for live-cell imaging and manipulation of authentic RNAs. Y. Takai1, Y. Okada1,2; 1Center for Biosystems Dynamics Research (BDR), RIKEN, Suita, Japan, 2Graduate School of Science, The University of Tokyo, Tokyo, Japan

B74/P1073 Metadata and Optical Performance Tracking for Fluorescent Microscopes. M.M. Hammer1, F. Farzam1, M. Huisman1, D. Grunwald1; 1UMass Medical School, WORCESTER, MA

B75/P1074 Temperature controlled 633nm biostimulation. S. Cohen1, V. Gomez-Godinez2, K. Chow1, M. Ono1, D. Preece1, M. Berns1,2; 1Institute of Engineering in Medicine, University of California, San Diego, San Diego, CA, 2Beckman Laser Institute, University of California, Irvine, Irvine, CA

B80/P1079 In Vivo Directed Gene Editing with CRISPR/Cas9 using Peptide Based Nanoparticle. G. Divita1, N. Durany1, N. Desai1, M. Guidetti1, V. Josserand3; 1Divincell, Nimes, France, 2IAB INSERM U1209, Grenoble, France

B81/P1080 DARPin-Modified Adeno-Associated Virus Vectors for Selective Targeting of CD4+ Cells. E.J. Kenkel1, H.S. De Silva Feeley2, A.J. Kumar1, D. Stone1, K.R. Jerome1,2; 1Department of Laboratory Medicine, University of Washington, Seattle, WA, 2Vaccine and Infectious Disease Division, Fred Hutchinson Cancer Research Center, Seattle, WA

New Technologies in Cell Biology: CRISPR

B76/P1075 Molecular beacon technologies for live-cell imaging of single genomic loci and RNA transcripts. A.K. Chen1; 1Biomedical Engineering, College of Engineering, Peking University, Beijing, China

B77/P1076 Combining CRISPR and Molecular Beacons to Visualize Single Genomic Loci in Living Cells. X. Wu1, A.K. Chen1; 1Biomedical Engineering, College of Engineering, Peking University, Beijing, China

B78/P1077 Antibody validation using CRISPR knockout: An antibody toolbox for the major ALS/FTD disease gene C9ORF72. C. Laffamme1, O. Gileadi1, Z. You1, T.M. Durcan1, P.S. McPherson1,2; 1Neurology and Neurosurgery, McGill University, Montreal, QC, 2Medicine, Oxford University, Oxford, United Kingdom

B79/P1078 In Vivo Directed Gene Editing with CRISPR/Cas9 using Peptide Based Nanoparticle. G. Divita1, N. Durany1, N. Desai1, M. Guidetti1, V. Josserand3; 1Divincell, Nimes, France, 2IAB INSERM U1209, Grenoble, France

B80/P1079 Development of a CRISPR/Cas9-mediated gene editing and quality control pipeline to illuminate organization and dynamics in hPSCs. R. Gunawardane1; 1Allen Institute for Cell Science, Seattle, WA

B81/P1080 DARPin-Modified Adeno-Associated Virus Vectors for Selective Targeting of CD4+ Cells. E.J. Kenkel1, H.S. De Silva Feeley2, A.J. Kumar1, D. Stone1, K.R. Jerome1,2; 1Department of Laboratory Medicine, University of Washington, Seattle, WA, 2Vaccine and Infectious Disease Division, Fred Hutchinson Cancer Research Center, Seattle, WA

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B82/P1081 Rapidly increasing knock-in efficiency of CRISPR in mice by using blastocysts as a testing model. E. McBeath1, J. Parker-Thornburg1, Y. Fujii2, C. Smith1, M. Hofmann1, J. Abe1, K. Fujiwara1; 2Endocrine Neoplasia and Hormonal Disorders, University of Texas, MD Anderson Cancer Center, Houston, TX, 1Genetics, University of Texas, MD Anderson Cancer Center, Houston, TX, 2Radiology Research, Houston Methodist Research Institute, Houston, TX, 3Cardiology, University of Texas, MD Anderson Cancer Center, Houston, TX.

B83/P1082 Directed evolution of smaller CRISPR-Cas proteins using MISER. A. Shams1, S. Higgins1, B. Oakes1, C. Fellmann1, B. Stahl2, J. Doudna1, D. Savage1; 1Department of Molecular Cell Biology, University of California, Berkeley, Berkeley, CA, 2Institute of Genetics, San Francisco, CA, 3Innovative Genomics Institute, Berkeley, CA.

B84/P1083 STRIDE (SensiTive Recognition of Individual DNA Ends): Direct in situ detection of individual single- and double-strand breaks induced by CRISPR/Cas9. M. M. Kordon1, M. Zarębski1, K. Solaryczyk1, H. Ma2, T. Pederson1, J. Dobrucki1; 1Cell Biophysics, Jagiellonian University, Krakow, Poland, 2Department of Biochemistry and Molecular Pharmacology, University of Massachusetts Medical School, Worcester, MA.

B85/P1084 CRISPR knock-in for imaging an endogenous component of the ESCRT membrane scission machinery. H.K. Hoffman1, N.S. Groves1, M.V. Fernandez2, E.O. Freed3, S.B. van Engelenburg1; 1Molecular and Cellular Biophysics Program, Department of Biological Sciences, University of Denver, Denver, CO, 2HIV Dynamics and Replication Program, Center for Cancer Research, National Cancer Institute, Frederick, MD.

B86/P1085 Establishment of a CRISPR/Cas9-based strategy for rapamycin-induced protein dimerization in C. elegans. S. Mangal1, J. Zielich1, E.J. Lambie1, E. Zan1; 1Cell and Developmental Biology, Biocenter, LMU Munich, Munich, Germany.

B87/P1086 GFP-omics: a high-throughput platform for functional interrogation of the human proteome. N.H. Cho1, Y.J. Li2, A.D. Brunner1, M.Y. Hein1, B. Huang1, J.S. Weissman1, M. Manni1, M.D. Leonetti2; 1Co-presenter, authors contributed equally, N/A, United States, 2Cell Atlas, Chan Zuckerberg Institute, San Francisco, CA, 3Max Planck Institute for Biochemistry, Martinsried, Germany, 4Howard Hughes Medical Institute, San Francisco, CA, 5University of California, San Francisco, San Francisco, CA.

B88/P1087 CRISPR/Cas9 strategies for generation of Knock-ins in the sea urchin. J.A. Espinoza1, A. Hamdoun1; 1Sciences of Oceanography, University of California San Diego, La Jolla, CA.

B89/P1088 Karyotype engineering by chromosome fusion leads to reproductive isolation in yeast. J. Luo1, X. Sun2, B.P. Cormack1, J.D. Boeke1; 1Institute for Systems Genetics, NYU Langone Health, New York, NY, 2Department of Molecular Biology Genetics, JHU School of Medicine, Baltimore, MD.

B90/P1089 Specificity of Rho family GTPases mediating BMP7-evoked chomotrophic signal transduction. N.R. Gosala1; 1Pharmaceutical Sciences, St. John's University, New York, NY.

B91/P1090 Kettin, a large actin-binding protein with immunoglobulin-like repeats, is essential for sarcomeric actin assembly and larval development in Caenorhabditis elegans. K. Ono1; 1Z. Qin1, R.C. Johnsen2, D.L. Baillie1, S. Ono1; 1Pathology, Emory University, Atlanta, GA, 2Molecular and Biological Chemistry, Simon Fraser University, Burnaby, BC.

B92/P1091 The actin nucleation factors JMY and WHAMM promote caspase activation and programmed cell death. V. King1, N. Leclair1, V. Vlaun1, N. Lebek2, K. Campbell1; 1Department of Molecular and Cell Biology, University of Connecticut, Storrs, CT, 2Institute for Systems Genomics, University of Connecticut, Storrs, CT.

B94/P1092 Hsc70 is a common component of actin-rich structures generated during bacterial infections. B. Walker1, M.D. Chua1, J.A. Guttman1; 1Biological Sciences, Simon Fraser University, Burnaby, BC.

B95/P1093 Effects of Drp1 phospho-mimetics and phosphorylation on activation by actin and cardiolipin. A. Liu1, A. Hatch1, H.N. Higgs1; 1Molecular and Cellular Biology, Dartmouth College, Hanover, NH.

B96/P1094 Testing in-vivo cortactin siRNA silencing efficiency in mammalian testes. A. Shirami1, P. Pan2, J. Shadarevian1, D. Djaksigulova1, A. Vogl1; 1Cellular Physiological Sciences, University of British Columbia, Vancouver, BC, 2Biochemistry & Molecular Biology, University of British Columbia, Vancouver, BC.

B97/P1095 Transgenic Saccharomyces cerevisiae with engineered minimal fusion construct from Schizosaccharomyces pombe shows growth while lacking native WASP/myosin complex. M.J. Lipke1, E.B. Lewellyn1; 1Biology, St. Norbert College, De Pere, WI.

B98/P1096 Epithelial-Mesenchymal homeostasis is perturbed by the ectopic expression of 35Kda isoform of SG2NA. R. GUPTA1, S.K. GOSWAMI1; 1School of Life Sciences, Jawaharlal Nehru University, NEW DELHI, India.

B99/P1097 Innovation in Drosophila Actin-Related Genes. C.M. Schroeder1, H.S. Malik2; 1Division of Basic Sciences, Fred Hutchinson Cancer Research Center, Seattle, WA, 2Howard Hughes Medical Institute, Seattle, WA.

B100/P1098 F-actin Homeostasis through Transcriptional Regulation, Proteasome-mediated Actin Degradation, and Protection by Profilin. M. Onishi1, K. Pecani2, T. Jones IV1, F. Fauser1, J. Villarrasa-Blasi1, R. Jinkerson1, M. Breker1, M. Jonkas1, F.R. Cross1, J.R. Pringle1; 1Genetics, Stanford University School of Medicine, Stanford, CA, 2The Rockefeller University, New York, NY, 3Department of Plant Biology, Carnegie Institution for Science, Stanford, CA.

B101/P1099 Bicistronic tagging and severing (BITS): a new gene editing tool in C. elegans using endogenous trans-splicing pathways. J.M. Rustill1, G.S. Prince1, T.M. Ward1, A.L. McKinney1, J.F. Walrho1, R.S. Littlefield1; 1Biology, University of South Alabama, Mobile, AL.

B102/P1100 Investigating how FHOD-1 regulates muscle cell size in Caenorhabditis elegans. C.V. Yingling1, D. Pruyne1; 1Cell and Developmental Biology, SUNY Upstate Medical University, Syracuse, NY.

B103/P1101 Roles of FHOD-1 and CYK-1 in the development and maintenance of body wall muscles in Caenorhabditis elegans. S. Sundaramurthy1, S. Votra1, A. Laszlo1, D. Pruyne1; 1Department of Cell and Developmental Biology, SUNY Upstate Medical University, Syracuse, NY.

B104/P1102 Leiomodin-2: Regulator of cardiac thin filament length and contractile force. L. Mi-Mi1, G.P. Farmar1, R.M. Mayfield1, J. Strom2, M. Chu1, C.T. Pappas1, C.C. Gregorio1; 1Department of Cellular and Molecular Medicine, University of Arizona, Tucson, AZ, 2Sarver Molecular Cardiovascular Research Program, University of Arizona, University of Arizona, Arizona.

B105/P1103 Both tropomodulin’s actin binding sites are required to modulate dendrite development. K.T. Gray1, H. Stefen1, C. Keller1, T. Ly1, M. Colpan1, G. Wayman1, E. Pate1, T. Fath2; 1A.S. Kostyukova2; 1VoiIand School of Chemical Engineering and Bioengineering, Washington State University, Pullman, WA, 2Neurodegeneration and Repair Unit, University of New South Wales, School of Medical Sciences, Sydney, Australia, 3Neuronal Culture Core Facility, University of New South Wales, Sydney, Australia, 4Integrative Physiology and Neuroscience, Washington State University, Pullman, WA, 5Department of Biomedical Sciences, Macquarie University, Sydney, Australia.

B106/P1104 The Drosophila melanogaster Rab GAP RN-tre plays a role in regulating non-muscle myosin II localization and function. A. Platenkamp1, E. Detmar1, L. Sepulveda1, A. Ritz1, S.L. Rogers1, D.A. Applewhite1; 1Biology, Reed College, Portland, OR, 2Biology, The University of North Carolina, Chapel Hill, NC.

B107/P1105 Shootin1a Mediates an F-actin-adhesion Clutch to Form Dendritic Spines. R.F. Kastian1, H. Katsuno1, K. Baba1, T. Minegishi1, N. Inagaki1; 1Division of Biological Science, Nara Institute of Science and Technology, Ikoma, Japan.

B108/P1106 The sarcomeric formin Fhod3 nucleates actin filaments. A.A. Patel1, A.M. Grunfeld1, H. Nakano1, A. Chaney1, A. Nakano1, M.E. Quinn1; 1Molecular Biology Interdepartmental Doctoral Program, University of California, Los Angeles, Los Angeles, CA, 2Department of Chemistry and Biochemistry, University of California, Los Angeles, Los Angeles, CA, 3Department of Molecular, Cell, and Developmental Biology, University of California, Los Angeles, Los Angeles, CA, 4Eli and Edythe Broad Center of Regenerative Medicine and Stem Cell Research, University of California, Los Angeles, Los Angeles, CA.
Regulation of Actin Dynamics 1

B109/P1107 Dynamic Modulation of Pulsed Actomyosin Contractility by Anillin in early C. elegans embryos. B. Yao1, E.M. Munro2, 1Molecular Genetics and Cell Biology, University of Chicago, Chicago, IL

B110/P1108 Actin Severing and the Physics of Fragmentation for Semiflexible Polymers. A.M. Lorence3, E. Koslov1, 2Physics, University of San Diego California, San Diego, CA

B111/P1109 ADF/cofilin severs crossedlinking F-actin faster and enables depolymerization from the barbed-end. H. Wieland1, A. Jego1, G. Romet-Lemonne1, Institut Jacques Monod, CNRS, Université Paris Diderot, Paris, France

B112/P1110 A Cofilin-dependent actin stress response is maladaptive during embryogenesis. L.R. Figdor1, L. Zheng1, N.E. Biel1,2, H. Seede1,3, 1Biochemistry and Molecular Biology, Baylor College of Medicine, Houston, TX, 2Integrative Molecular and Biomedical Sciences Graduate Program, Baylor College of Medicine, Houston, TX, 3Biochemistry and Cell Biology, Rice University, Houston, TX

B113/P1111 Identification of an actomyosin arc network at the B cell immune synapse using super-resolution imaging. J.C. Wang1, X. Wu1, J.A. Hammer III1, 1Cell Biology, National Institutes of Health, Bethesda, MD

B114/P1112 Regulation of the ADF/cofilin phosphatase Slingshot during Xenopus oocyte maturation. H. Abe1, Y. Nakano3, 1Department of Biology, Chiba University, Chiba, Japan

B115/P1113 Actinomyosin Remodeling and Pluripotency States of Human Embryonic Stem Cells. N.P. Meyer1, D.L. Barber1, 1Department of Cell and Tissue Biology, University of California, San Francisco, San Francisco, CA

Regulation of Non-Muscle Myosin II dynamics by MLCK during cell movement. N.E. Snell1, M.A. Rizzo1, M. Markwardt2, 1Physiology, University of Maryland Baltimore, Baltimore, MD

B117/P1115 Chromatin structure changes mediated by NM 2A deletion induces a deficiency in embryonic differentiation. T. Wei1, X. Ma1, S. Kawamoto1, R.S. Adelstein1, 1NHBLI, NIH, Bethesda, MD

B118/P1116 Tropomyosin 3.1 promotes actin stress fiber formation during epithelial-to-mesenchymal transition. J. Parreno1, V.M. Fowler1, 1Molecular Medicine, The Scripps Research Institute, La Jolla, CA

B119/P1117 Role of N-WASP in Lung development and Lung Cancer. A. VERMA1, P. Kalailingham1, T. Thanabalu1, 1School of Biological Sciences, Nanyang Technical University, Singapore, Singapore

B120/P1118 Profilin1 ALS variants disrupt actin polymerization dynamics. A. Brawner1, J.L. Henty-Ridilla1, 1Cell and Developmental Biology, SUNY Upstate Medical University, Syracuse, NY

B121/P1119 Phospho-regulation of tropomyosin is crucial for actin cable turnover in fission yeast. S. Palani1, D. Koester1, A. Kamnev1, T. Hatan1, T. Kanamaru2, H. Broker2, J. Hernandez-Fernaud3, A. Jones1, J.B. Millar4, D.P. Mulvihill1, M. Balasubramanian1, 1Warwick Medical School, University of Warwick, Coventry, United Kingdom, 2Biosciences, University of Kent, Canterbury, United Kingdom

B122/P1120 Integrated control of formin-mediated actin assembly by a stationary inhibitor and mobile activator. M. Garabadian1, T. Stankovic2,3, C. Lou1, T.J. Rand1, L.W. Pollard1, O.S. Sokolova1, B.L. Goode1, 1Biology Dept., Brandeis University, Waltham, MA, 2Bioengineering Dept., Moscow State University, Moscow, Russia

B123/P1121 Cortactin stabilization of actin filaments requires actin-binding repeats and linker region, is disrupted by specific substitutions, and is independent of actin nucleotide state. A.N. Scherer1, N.S. Anand2, A.J. Koleske1,3, 1Department of Cell Biology, Yale University, New Haven, CT, 2Department of Molecular Biophysics and Biochemistry, Yale University, New Haven, CT, 3Department of Neuroscience, Yale University, New Haven, CT

B124/P1122 Constitutive activation of Wasp renders neutrophils hyperactive. M. Keser1, J. Record1, J. Kritikou1, H. Brauner1, M. He1, W. Song2, P. Vandenberge2, S. Snapper2, L. Westerberg1, 1Microbiology Tumor and Cell biology, Karolinska Institutet, Stockholm, Sweden, 2Cell Biology Molecular Genetics, University of Maryland, College Park, MD, 3Center for Human Genetics, University Hospitals Leuven, Leuven, Belgium, 4Medicine, Harvard Medical School, Boston, MA

B125/P1123 RhoA mediated activation of the actin nucleating activity of DIAPH1 is enhanced by IQGAP1. A. Chen1, L.Y. Zhu1, A.R. Wilde1, 1Biochemistry, University of Toronto, Toronto, ON

B126/P1124 Twinfilins are important for turnover of lamellipodial and endocytic actin filament networks in mammalian cells. M. Hakala1, P. Lappalainen1, 1Institute of Biotechnology, University of Helsinki, Helsinki, Finland

B127/P1125 Spatio-temporal Integration of cAMP- and Store Operated Calcium Entry-Signaling Regulates Lamellipodial Dynamics in Migrating Cells. P. Brzezinska1, N. Simpson1, A. Jacobs1, J. Burke-Kleinman1, J. Mackell1, D.H. Maurice3, 1Biomedical and Molecular Sciences, Queen’s University, Kingston, ON

B128/P1126 Par-1 promotes Diaphanous-based actin networks required for nuclear compartmentalization in the syncytial Drosophila embryo. T. Jiang1, T. Harris1, 1Cell System Biology, University of Toronto, Toronto, ON

Kinesins 1

B130/P1127 MAP7 recruits kinesin-1 to target bidirectional cargo towards the microtubule plus end. A.R. Chaudhary1, H. Lu1, K.M. Trybus1, A.G. Hendrick1, 1Bioengineering, McGill University, Montreal, QC, 2Molecular Physiology and Biophysics, University of Vermont, Burlington, VT

B131/P1128 Inhibition of kinesin and dynein motility by microtubule-associated septin 2/6/7 complexes. A. Suber1, E. Spioltis2, 1Biology, Drexel University, Philadelphia, PA

B132/P1129 The kinesin-4 motor KIF7 acts as a brake and an obstacle to other motors. Y. Yue1, T.L. Blasius1, K.J. Verhey1, 1Department of Cell and Developmental Biology, University of Michigan Medical School, Ann Arbor, MI

B133/P1130 In vitro Reconstitution of Kinesin-based mRNA Transport. S. Baumann1, M. Gill1, S. Maurer2, 1Cell and Developmental Biology, Centre for Genomic Regulation, Barcelona, Spain

B134/P1131 Motor disease mutations in human KIF1A disrupt autoinhibition of KIF1A motor. K. Chiba1, R.J. McKenzie1, S. Niwa2, 1Molecular and Cellular Biology, University of California Davis, Davis, CA, 2Frontier Research Institute for Interdisciplinary Sciences (FRIS), Tohoku University, Sendai, Japan

B135/P1132 Microtubule Attachment Geometries Affect Kinesin Attachment Durations. S. Pyrassopoulos1, E.M. O斯塔1, 1Pennsylvania Muscle Institute, Perelman School of Medicine at the University of Pennsylvania, Philadelphia, PA

B136/P1133 Neck Linker Docking is Critical for Kinesin-1 Force Production but at a Cost to Speed and Processivity. G. Budaitis1, S. Iariwala1, D.N. Reinemann1, K.I. Schimer1, B.J. Grant1, D. Sept1, M.J. Lang1, K.J. Verhey1, 2Cellular and Molecular Biology, University of Michigan, Ann Arbor, MI, 3Department of Computational Medicine and Bioinformatics, University of Michigan, Ann Arbor, MI, 4Department of Chemical and Biomolecular Engineering, Vanderbilt University, Nashville, TN, 5Biophysics Program, University of Michigan, Ann Arbor, MI, 6Division of Biological Sciences, Section of Molecular Biology, University of California, San Diego, La Jolla, CA, 7Department of Biomedical Engineering, University of Michigan, Ann Arbor, MI, 8Department of Cell and Developmental Biology, University of Michigan, Ann Arbor, MI

B137/P1134 Cryo-EM structures reveal kinesin-1 triggers conformational switching of microtubules as a base for polarized transport. M. Morikawa1, T. Shimada1, J. Kaneshiro1, T. Kambara1, S. Kamimura1, T. Yagi1, H. Iwamoto1, S. Uemura1, H. Shigematsu1, M. Shirozu1, T. Ichimura1, T.M. Watanabe2, R. Nitta2, Y. Okada3,4, N. Hirokawa1, 1Department of Cell Biology and Anatomy, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan, 2Department of Biological Sciences, Graduate School of Science, The University of Tokyo, Tokyo, Japan, 3Laboratory for Cell Polarity Regulation, RIKEN Center for Biosystems Dynamics Research, Osaka, Japan, 4Laboratory for Comprehensive Bioimaging, RIKEN Center for Biosystems Dynamics Research, Osaka, Japan, 5Department of Biological Sciences, Faculty of Science and Engineering, Chuo University, Tokyo, Japan, 6Department of Life Sciences, Faculty of Life and Environmental Sciences, Prefectural University of Hiroshima, Hiroshima, Japan, 7Life and Environmental Division, Spring-8, Japan Synchrotron Radiation Research Institute, Hyogo, Japan, 8Structural Biology Group, RIKEN Center for Biosystems Dynamics Research, Kanagawa, Japan
Microtubule Nucleation and Organization

B149/P1145 Centrosomal microtubule organizing centers limit microtubule polymer in mammalian cells. K. Farrell1, T. Stearsn1,2; 1Biology, Stanford University, Stanford, CA, 2Genetics, Stanford University School of Medicine, Stanford, CA

B150/P1146 A novel perinuclear non-centrosomal MTOC in Drosophila fat body cells controls nuclear positioning and collagen secretion through Nespelin recruitment of Patronin and Ninein. Y. Zheng1, R.A. Buchwalter1, J.V. Chen1, L. Kao1, T.L. Megraw1; 1Department of Biomedical Sciences, Florida State University, Tallahassee, FL

B151/P1147 Live imaging of acentrosomal microtubule dynamics controlling early mammalian development. J. Zenker1,2, M. White1, R.M. Templin1, R.G. Parton1, O. Thorn-SCold1, Y.D. Alvarez1, M. Gasnier1, H. Lim1, M. Biro1, S. Bissiere1, N. Plachta1; 1ARMI, Monash University, Melbourne, Australia, 2IMCB, A*STAR, Singapore, 3University of Queensland, IMB, Brisbane, Australia, 4Ludwig-Maximilians-University, 3Department of Pharmacy, Center for Drug Research, Munich, Germany, 5University, New South Wales, EMBL, Australia, Single Molecule Science node, School of Medical Sciences, Sydney, Australia

B152/P1148 Nuclear rotation by a Golgi-derived MTOC formed during human cytomegalovirus infection. D.J. Procter1, D.F. Walsh1; 1Microbiology-Immunology, Northwestern University, Feinberg School of Medicine, Chicago, IL

B153/P1149 A two-step mechanism for the inactivation of microtubule organizing center function at the centrosome. J. Magesca1, J.C. Zonka1, J.L. Feldman1; 1Biology, Stanford University, Stanford, CA

B154/P1150 XMAP215 performs two distinct roles during MT nucleation: concentrator and catalyst. B.R. King1, M. Moritz1, D.A. Agard1, E. Muller1, T.N. Davis1; 1Biochemistry, University of Washington, Seattle, WA, 2Biochemistry and Biophysics, University of California at San Francisco, San Francisco, CA

B155/P1151 Microtubule Array Dynamics in Dictyostelium: Laser Ablation Reveals Active Avoidance Behavior. J. Odell1, V. Sikirzhatchki1, I. Tikhonenko1, A. Khodjakov1, M.P. Koonce1; 1Translational Medicine, Wadsworth Center, Albany, NY

B156/P1152 The Golgi Outpost Protein TPPP is Critical for Myelination by Mediating Microtubule Growth in Oligodendrocytes. M. Fu1, T. McAlear1, J.A. Oses-Prieto1, H. Nguyen1, C. Lee1, R. Shi1, M. Neri1, T. Wang1, S. Schenk1, A. Burlingame1, S. Bechstedt1, B.A. Barres1; 1Neurobiology, Stanford, Stanford, CA, 2Anatomy and Cell Biology, McGill University, Montreal, QC, 3Pharmaceutical Chemistry, UCSF, San Francisco, CA, 4VA Hospital, Stanford, Stanford, CA

B157/P1153 A Pushing Mechanism for Aster Positioning in Large Cell Types. J.L. Meaders1, D.R. Burgess1; 1Biology, Boston College, Chestnut Hill, MA

B158/P1154 Investigating the contribution of PAR polarity proteins and cell cycle regulators in reorganizing non-centrosomal microtubules in dividing C. elegans intestinal epithelial cells. M.D. Sallee1, J.L. Feldman1; 1Biology, Stanford University, Stanford, CA

B159/P1155 Microtubule polymerization is promoted by organic osmolytes in otherwise unfavorable conditions. R. Curtin1, D.L. Sackett1; 1NICHD, NIH, Bethesda, MD

B160/P1156 A balance of Rac1 and Myosin-II activity promotes septin-mediated guidance of CAMSAP-associated microtubules to focal adhesions. D.G. Merenich1, S. Donovan1, A. Gill1, P. Patel1, K.A. Myers1; 1Biological Sciences, University of the Sciences in Philadelphia, Philadelphia, PA

B161/P1157 Nonrandom y-TuNa-dependent spatial pattern of microtubule nucleation at the Golgi. A.A. Sanders1, K. Chang1, X. Zhu1, R.J. Thoppil1, W.R. Holkema1; 1Cell and Developmental Biology, Vanderbilt University, Nashville, TN, 2Physics and Astronomy, Vanderbilt University, Nashville, TN

B162/P1158 The effect of local geometric surroundings on microtubule aster movement and positioning. T. Sulerud1, J. Pelletier1, M. Tomskich1, A.M. Kloxin1, J.S. Oakey1, J.C. Gatlin1; 1Molecular Biology, University of Wyoming, Laramie, WY, 2Cell Division Group, Marine Biological Laboratory, Woods Hole, MA, 3Systems Biology, Harvard, Boston, MA, 4Chemical and Bio-molecular engineering, University of Delaware, Newark, DE, 5Chemical Engineering, University of Wyoming, Laramie, WY

B163/P1159 Regulation of yTuRC-mediated microtubule nucleation studied by TIRF microscopy. T. Consoli1, J. Roostalu1, W. Lim1, J. Asthana1, J. Gannon1, T. Sury1; 1The Francis Crick Institute, London, United Kingdom, 2School of Life Science and Technology, Tokyo Institute of Technology, Tokyo, Japan
Tubulins and Associated Proteins

B167/P1163 Building a brain with microtubules: illuminating a role for Tuba1a in axon guidance. G.C. Buscaglia1, J.E. Aiken2, J.K. Moore1, E.A. Bates1, 1Pediatrics, University of Colorado Anschutz Medical Campus, Aurora, CO, 2Cell and Developmental Biology, University of Colorado Anschutz Medical Campus, Aurora, CO

B168/P1164 Human β-tubulin isotypes regulate microtubule protofilament number and stability. S. Tsui, G.M. Alushin2, M. Ugalioni1, K. Ishihara1,2,3, J. Brugues1,2,3, Max Planck Institute for the Physics of Complex Systems, Dresden, Germany, 2Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, Germany, 3Center for Systems Biology Dresden, Dresden, Germany

B169/P1165 Crucial role of α-tubulin acetylation under stress-induced autophagy in Arabidopsis thaliana: kinesin recruiting and easing microtubule interaction with autophagosomes. V. Olenieva1, A.I. Yemets2, V. Sulimenko3, Y.B. Blume1; 1Department of Genomics and Systems Biology Dresden, Dresden, Germany 2Max Planck Institute for the Physics of Complex Systems, Dresden, Germany, 3German Center for Neurodegenerative Diseases (DZNE), Bonn, Germany

B170/P1166 Towards a comprehensive understanding of the MAP code. B. Monroy1, T.C. Tan1, A. Ramkumar1, D.W. Nowokowski1, K. On-McKenny1, 1Molecular and Cell Biology, University of California, Davis, Davis, CA

B171/P1167 Novel N-terminus truncated CLIP-170 (CLIP-170S) confers taxane resistance by impairing microtubule binding; systems-biology predicted Gleevec reverses drug resistance by selective CLIP-170S depletion. K. Kita1, P.V. Thakkar2, N. Madhukar1, G. Galletti1, I. Barasoaia1, J. Dia2, H.V. Goodson1, M.A. Shah1, O. Elemento1, P. Giannakakou1; 1Hem/Onc, Weill Cornell Medicine, New York, NY, 2Biology, Centro de Investigaciones Biológicas (CSIC), Spain, Madrid, Spain, 3Chemistry and Biochemistry, University of Notre Dame, Notre Dame, IN

B172/P1168 Branched cytoskeletal networks and the generation of complexity in the Rhizarian amoeba Corallomoya tenera. S.L. Guest1, S.C. Dawson1, 1Microbiology and Molecular Genetics, UC Davis, Davis, CA

B173/P1169 CLASP1 is Required for CLASP2 Localization and Function at Microtubules in Interphase Cells. R.J. Thoppil1, A.A. Sanders1, E.J. lawrence1, S. Simhan1, K. Chang1, M. Zanic1, I. Kaverina1; 1Cell and Developmental Biology, Vanderbilt University, Nashville, TN

B174/P1170 Molecular Mechanism Of The Intrinsically Disordered Region Of CPAP Protein With Microtubules: An Insight Into Cerebral Microcephaly. N. Das1, C. Rhoads1,2,3, K.P. Wall1; 2L.E. Hough1; 3Biofrontiers Institute, University of Colorado Boulder, Boulder, CO, 1Dept of MCB Biology, University of Colorado Boulder, Boulder, CO, 2Dept of Chemistry and Biochemistry, University of Colorado Boulder, Boulder, CO, 3Dept of Physics, University of Colorado Boulder, Boulder, CO

B175/P1171 UNC-45A: a novel microtubule destabilizer in neurons? L.J. Habicht1,2, M.A. Mooney1, S. Lee1, D. Inniss1, Y. Izuka1, J. Meints1, H. Martinez1, M.K. Lee1, M. Bazzaro2, 1Institute of Microbiology and Virology, Brandenburg Medical School Theodor Fontane, Senftenberg, Germany, 2Department of Obstetrics, Gynecology and Women’s Health, University of Minnesota, Minneapolis, MN, 3Life Sciences Summer Undergraduate Research Program (LSSURP), University of Minnesota, Minneapolis, MN, 4Department of Neuroscience, University of Minnesota, Minneapolis, MN

B176/P1172 Investigation of microtubule bundling and sliding mechanisms for MAP7 function in axon branching. B.H. Yang1, S. Tymanskyj1, L.M. Rice1, 1Biophysics, UT Southwestern Medical Center, Dallas, TX, 2Nencki Institute of Experimental Biology PAS, Warsaw, Poland

B177/P1173 Functional anatomy of Stu1, a microtubule rescue factor from yeast. M.A. Niziole1, S. Majumdar1, L.M. Rice1, 1Biophysics, UT Southwestern Medical Center, Dallas, TX, 2Nencki Institute of Experimental Biology PAS, Warsaw, Poland

B178/P1174 Identifying and Understanding the Role of Microtubule Associated Proteins in C. elegans. M.V. Tran1, J.L. Feldman1; 1Biosciences, Stanford University, Stanford, CA

B179/P1175 Cytoplasmic p27kip1 is stabilized by paclitaxel and competes with stathmin for binding to tubulin heterodimers. S. Libort1, J.J. Correla1, D.T. Brown1, M.E. Graichen1; 1Department of Cell and Molecular Biology, University of Mississippi Medical Center, Jackson, MS

B180/P1176 Protein kinases potentially involved in yTuSC phosphorylation and associated with plant MT-nucleation centers. P.A. Karpov1, A.I. Yemets2, A. Rayevsky1, V. Sulimenko1, P. Dräber1, Y.B. Blume1; 1Department of Genomics and Molecular Biotechnology, Institute of Food Biotechnology and Genomics of Natl. Acad. of Sci. of Ukraine, Kyiv, Ukraine, 2Department of Cell Biology and Biotechnology, Institute of Food Biotechnology and Genomics of Natl. Acad. of Sci. of the Czech Rep., Prague, Czech Republic

B181/P1177 Adapting a proximity labeling technique to identify novel non-centrosomal MTIC proteins in C. elegans. A.D. Sanchez1, T. Branon2, A.Y. Ting1, J.L. Feldman1; 1Biology, Stanford University, Stanford, CA, 2Chemistry, Massachusetts Institute of Technology, Cambridge, MA

B182/P1178 Identification and characterization of Vasohibins/SVBP as long-sought α-tubulin deacetylases. J. Cárdenas1,2, A. Alli2,2, C. Bosc1, L. pieri1, P. Heemerkat1, J. Deloume1, J. Le Friec1, B. Boulou1, S. Syed1, Y. Couté2, M.S. Bogyo1, S. Humbert1, A. Andreiku1,2; 1Grenoble Institut des Neurosciences (GIN), Univ. Grenoble Alpes, Grenoble, France, 2Grenoble Institut des Neurosciences (GIN), Inserm, U1216, Grenoble, France, 3Department of Pathology, Stanford University School of Medicine, Stanford, CA, 4BIG-BG, Univ. Grenoble Alpes, CEA, INSERM, Grenoble, France, 5BIG-GPC, CEA, Grenoble, United States

B183/P1179 TPPP3 promotes microtubule bundling and networking via weak interactions which enable the microtubule network to adapt the external stress changes. K. Oiwa1,2, T. Torisawa3,1; 1Graduate School of Life Science, University of Hyogo, Harima, Japan, 2Advanced ICT Research Institute, National Institute of Information and Communications Technology, Kobe, Japan, 3Structural Biology Center, National Institute of Genetics, Mishima, Japan

B184/P1180 Katanin spiral and ring structures shed light on power stroke for microtubule severing. E. Zehr1, A. Syký1, G. Piszczek2, E. Szczesna1, X. Zuo1, A. Roll-Mecak1, 1Cell Biology and Biophysics Unit, National Institutes of Health, Bethesda, MD, 2Biophysics Core, National Institutes of Health, Bethesda, MD, 3X-Ray Science Division, Argonne National Laboratory, Argonne, IL

B185/P1181 Acute upregulation of the beta-tubulin tubb6 (beta 5, class S) linked to fiber regeneration causes muscle microtubule defects in mdx mice. D. Randazzoi1, U. Khalique1, J.J. Belanto1, A. Kenea1, D.M. Talsnes1, J.T. Othloff2, M.D. Tran3, J.K. Zaal3, K. Pak1, I. Pinal-Fernandez1,4, A.L. Mammen1,4, D.L. Sackett1, J.M. Ervasti1, E. Raalten1; 1Light Imaging Section, Office of Science and Technology, National Institute of Arthritis and Musculoskeletal and Skin Diseases, National Institutes of Health, Bethesda, MD, 2Biophysics Core, National Institutes of Health, Bethesda, MD, 3SahD Bermak Science Division, Argonne National Laboratory, Argonne, IL

Board No./Presentation No.

B164/P1160 Hierarchical regulation of spindle size during development. E. Riekhoff1,2,3, F. Berndt1,2, S. Goffler1,2,3, F. Decker1,2,3, J. Brugues1,2,3; 1Max Planck Institute for the Physics of Complex Systems, Dresden, Germany, 2Center for Systems Biology, Dresden, Germany, 3Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, Germany

B165/P1161 Structural Analysis of the Candida Albicans v-TuSC. P. Liu1, D. Lin1, E. Župa1, A. Neuner1, U. Jäkle1, S. Pfeffer1, E. Schiebel1; 1Heidelberg University, Zentrum für Molekulare Biologie der Universität Heidelberg (ZMBH), Heidelberg, Germany, 2German Center for Neurodegenerative Diseases (DZNE), Bonn, Germany

B166/P1162 Elucidating the interplay between polymerization dynamics and branching nucleation in frog egg extracts. F. Decker1,2,3, B. Dalton1,2,3, M. Ugalioni1, K. Isihara1,2,3, J. Brugues1,2,3; 1Max Planck Institute for the Physics of Complex Systems, Dresden, Germany, 2Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, Germany, 3Center for Systems Biology Dresden, Dresden, Germany

Board No./Presentation No.

B167/P1165 Crucial role of α-tubulin acetylation under stress-induced autophagy in Arabidopsis thaliana: kinesin recruiting and easing microtubule interaction with autophagosomes. V. Olenieva1, A.I. Yemets2, Y.B. Blume1; 1Department of Genomics and Molecular Biotechnology, Institute of Food Biotechnology and Genomics of Natl. Acad. of Sci. of Ukraine, Kyiv, Ukraine, 2Department of Biochemistry, Institute of Molecular Cell Biology and Genetics, Russian Academy of Sci. of the Czech Rep., Prague, Czech Republic
**Ciliary Signaling and Ciliopathies**

B188/P1183 Primary Cilia Sense and Respond to Tubule Flow Differences Following Renal Ischemia-Reperfusion Injury. D.Z. Revel, H. Hamada, T. Inoue, B.K. Yoder; CDIB, University of Alabama at Birmingham, Birmingham, AL, Riken CB, Riken, Japan; Cell Biology, Johns Hopkins University, Baltimore, MD.

B189/P1184 Super-resolution microscopy reveals that the inversin compartment is a Structure of Alternating protein Complexes (STAC). H.W. Bennett, P.K. Jackson; Baxter Laboratory for Stem Cell Biology, Departments of Microbiology Immunology and Pathology, Stanford University School of Medicine, Stanford, CA.

B190/P1185 Tulp3 regulates renal cystogenesis by trafficking of cystoproteins to primary cilia. V. Palcharla, S. Hwang, B.N. Somatiakala, H. Badgandi, S. Mukhopadhyay; Cell Biology, UT Southwestern Medical Center, Dallas, TX.


B192/P1187 Game-specific ciliary protein kinase CilI-K regulates receptor-activated ciliary signaling in Chlamydomonas. M. Awashti, P. Ranjan, W.J. Snell; Department of Cell Biology and Molecular Genetics, University of Maryland, College Park, MD.

B193/P1188 During its regulated mobilization to existing cilia in Chlamydomonas, a plasma membrane signaling protein is internalized and aligns along cytoplasmic microtubules before delivery to the ciliary base. P. Ranjan, M. Awashti, W.J. Snell; Department of Cell Biology and Molecular Genetics, University of Maryland College Park, College Park, MD.


B195/P1190 Use of Neuronal Cultures to Assess Primary Cilia Signaling. S.E. Engle, L.S. Whitehouse, R. Bansal, P. Antonellis, N.F. Berbari; Biology, Indiana University-Purdue University Indianapolis, Indianapolis, IN.

B196/P1191 Cell specific effects of cilia loss on drug-induced and motivated behaviors. J.C. McIntyre, K. Jasso, J. Roberts, B. Setlow; Neuroscience, University of Florida, Gainesville, FL; Psychiatry, University of Florida, Gainesville, FL.

B197/P1192 GPCR-Specific Retention Mechanisms in Primary Cilia. A. Chadha, D.S. Williams; Jules Stein Eye Institute, University of California, Los Angeles, Los Angeles, CA.

B198/P1193 Activation of the u-3 fatty acid receptor FFAR4/GPR120 triggers cAMP-dependent mitogenesis and differentiation of preadipocytes via the primary cilium. K.I. Hilgenfeldt, P.K. Jackson; Microbiology and Immunology, Stanford University School of Medicine, Stanford, CA.

B199/P1194 IFT-dependent cilium tip localization of the receptor-type guanylate cyclase GCY-22. S. van der Burght, S. Rademakers, J. Johnson, M.R. Lerou, G. Jansen; Cell Biology, Erasmus MC, Rotterdam, Netherlands, Molecular Biology and Biochemistry, Simon Fraser University, Burnaby, BC.

B200/P1195 Genetic interactions between ciliary proteins NPH4 and BBBS and their role in development. M.R. Bentley, M.J. Croyte, R.S. Anderssen, S.C. Waldrep, J.M. Parant, B.K. Yoder; Department of Cell, Developmental, and Integrative Biology, University of Alabama Birmingham, Birmingham, AL, Department of Pharmacology and Toxicology, University of Alabama Birmingham, Birmingham, AL.

B201/P1196 Brain Somatic Mutations in MTOR Disrupt Neuronal Ciliogenesis, Leading to Focal Cortical Dysplasia. S. Park, J. Lim, S. Ramakrishna, S. Kim, W. Kim, J. Lee, H. Kang, J.F. Reiter, D. Kim, H. Kim, J. Lee; KAIST, Daejeon, South Korea, Hanyang University, Seoul, South Korea, Yeonse University College of Medicine, Seoul, South Korea, KISTI, Daejeon, South Korea, UCSF, San Francisco, United States.

B202/P1197 The ciliary protein Inpp5e is required for ciliary growth and ciliogenesis. J.C. McIntyre, K. Jasso, J. Roberts, B. Setlow; Neuroscience, University of Florida, Gainesville, FL; Psychiatry, University of Florida, Gainesville, FL.

B203/P1198 Genetic and functional approaches highlight a novel ciliary complex implicated in Joubert syndrome. J.C. Van De Wegen, T.D. Rusterholz, B. Latour, A.E. Gomez, R. Roepman, R. Bachmann-Gagescu; Pediatricians, University of Washington, Seattle, WA, Institute of Molecular Life Sciences, University of Zurich, Zurich, Switzerland, Department of Human Genetics, Radboud University Medical Center, Nijmegen, Netherlands.

B204/P1199 Hedgehog pathway activity in six widely available cell lines. A.E. Gomez, J.C. Van De Wegen, D. Doherty; Department of Pediatrics, Genetics Medicine Division, University of Washington School of Medicine, Seattle, WA.

B205/P1200 CEP120 is required to recruit the centriolar distal end proteins for appendage assembly and ciliogenesis. J. Tasi, C. Chang, T.K. Tang; Institute of Biomedical Sciences, Academia Sinica, Taipei, Taiwan.
B216/P1210 Dynamic post-transcriptional regulation of centrosome-associated RNA. P.V. Ryder1, D.A. Lerit1; 1Department of Cell Biology, Emory University, Atlanta, GA

B217/P1211 A free-running oscillator times and executes centriole biogenesis. M.G. Aydogan1, T.L. Steinacker1, A. Wainman1, L. Gartenmann1, S. Saurya1, M.A. Boemo1, J.W. Raff1; 1Sir William Dunn School of Pathology, University of Oxford, Oxford, United Kingdom

B218/P1212 Modeling the pattern formation of Pik4 towards fundamental understanding of centriole duplication. D. Takad1, D. Kitagawa1; 1Pharmaceutical Sciences, University of Tokyo, Tokyo, Japan

B219/P1213 Establishment and function of centrosome asymmetry in fly neural stem cells. E. Gallaud1, A. Monnard1; 1Cell and Tissue Biology, UC San Diego, La Jolla, CA

B220/P1214 A Centriole-Independent Autocatalytic Mechanism Maintains The Mitotic Centrosome. G. Cabral1, T. Laos1, J. Dumont1, A. Dammernann1; 1Max F. Perutz Laboratory of Molecular Biology, Cambridge, Cambridge, United Kingdom

B221/P1215 Radial organization and pre-mitotic remodeling of mammalian centriole distal appendages. D. Kong1, M. Bowler1, S. Sun1, R. Nanjundappa1, H. Sui1, M.R. Mahjoub1, J. Locnare1; 1LPSD, NIH/NCI, Frederick, MD, 1Wadsworth Center, New York Department of Health, Albany, NY, 1Department of Cell Biology and Physiology, Washington University, St Louis, MO

B222/P1216 Restriction of Pericentriolar Material to the Proximal End of Centrioles is Regulated by Transcription and is Essential for Spermiogenesis. B.J. Galletta1, J.M. Ortega1, C.J. Fagerstrom1, A.R. Rusu1; 1Cell Biology and Physiology Center, National Heart, Lung, and Blood Institute, Bethesda, MD

B223/P1217 Role of microtubule polyglutamylation in centrosome duplication. P. Singh1, V. Hamel1, P. Guichard1, C. Janke1; 1Department of genotoxic stress and cancer-UMR 3348, Institut Curie, Orsay, France, 1Department of cell biology, University of Geneva, Geneva, Switzerland

B224/P1218 Function of Cdk5p during nucleation of mammalian erythroblasts. J. Tischer1, P. Tátrai1, D. Adams1, F. Gergely1; 1CRUK Cambridge Institute, University of Cambridge, Cambridge, United Kingdom, 1Solv Biotechnology, Budapest, Hungary, 1Wellcome Trust Sanger Institute, Cambridge, United Kingdom

Cytokinesis 1

B225/P1219 Cell division, stem cell size heterogeneities and cell fate. A. Chainge1, M.B. Smith1, C. Labouesse2, A. Agnen1, K. Chaulet1, E.K. Paluch1; 1MRC/LMCB, University College London, London, United Kingdom, 1The Francis Crick Institute, London, United Kingdom, 1Stem Cell Institute, University of Cambridge, Cambridge, United Kingdom

B226/P1220 R-Ras1 and R-Ras2 regulate cell cycle G2/M progression in mouse embryonic fibroblasts. X. Duan1, X. Shang1, C. Hochstetter1, J. Johnson1, Y. Zheng1; 1Division of Experimental Hematology and Cancer Biology, Cincinnati Children's Hospital Medical Center, Cincinnati, OH

B227/P1221 Cell size control in Schizosaccharomyces pombe. K.D. Collins1, F. Chang1; 1Cell and Tissue Biology, UC San Francisco, San Francisco, CA

B228/P1222 Stomatina: a new plasma membrane protein involved in cell division. F. Dona1, S.J. Terry1, E. Storck1, C. Ozbali1, U. Eggert1; 1Randall Centre for Cell and Molecular Biophysics, King’s College London, London, United Kingdom

B229/P1223 The roles of GOLPH3 protein during cytokinesis. S. Sechi1, A. Frappalo1, R. Fraschini1, A. Karimpour-Ghahnavieh1, M. Miemeier1, M. Giansanti1; 1Istituto di Biologia e Patologia Molecolare, Università Sapienza di Roma, Consiglio Nazionale delle Ricerche, Roma, Italy, 1Department of Biotechnology and biosciences, Università degli Studi di Milano Bicocca, Milano, Italy, 1Complex Carbohydrate Research Center, University of Georgia, Athens, GA

B230/P1224 The F-BAR domain of Rga7 relies on a cooperative mechanism of membrane binding with Rng10 during fission yeast cytokinesis. Y. Liu1, N.A. McDonald1, S.M. Naege1, K.L. Gould1, J. Wu1; 1Molecular Genetics, The Ohio State University, Columbus, OH, 1Cell and Developmental Biology, Vanderbilt University, Nashville, TN, 1Biological Chemistry and Pharmacology, The Ohio State University, Columbus, OH

B231/P1225 Coordination of cell polarity and cytokinesis by fission yeast kinase Orb2. J.O. Maglione1, J.B. Moseley1; 1Biochemistry and Cell Biology, Dartmouth College, Hanover, NH
B249/P1243 Autophagy genes coordinate cell cycle progression and stem cell proliferation during germline development. K. Kosinski2,3, K. Ames2,3, D. De Cunha4,5, B. Bastin4,5, J. T. Tilotta1,2,3,4,5,6, S. Thongboonkerd1,2,3,4,5,6, L. Lee1,2,3, S. Nam1,2,3, K. Min1,2,3, D. Da Cunha4,5, K. Min2,3, E. T. Kipreos1;1Department of Cellular Biology, University of Georgia, Athens, GA

B250/P1244 Cell cycle asynchrony and DNA damage at mitotic entry contribute to the evolution of polyploid karyotypes. R. Basto1, S. Gemble1, A. Simon1, V. Fraisier1, V.E. Matthiens1, M. Nano1;1Cell Biology, Institut Curie, Paris, France

B251/P1245 Histone H3.3 Ser31 phosphorylation is required to prevent chromosome instability. C.A. Day1, A.K. Langfeld1, S.R. Fadness1,2, L.A. Septianaci1, J. Jumper1, D. Alonso1, K.T. Vaughan1, E. Hinchcliffe1,2,3;3Hormel Institute, University of Minnesota, Austin, MN, 2Biochemistry and Biophysics, University of Minnesota, Minneapolis, MN

B252/P1246 Failure to maintain cell cycle arrest following ionizing irradiation results in ATM-independent changes in p53-dynamics. M. Tsabel1,2,3, C.S. Mook1, K. Karhohs1, A. Regov1, G. Lahav1,2;1Cell of Systems Biology, Harvard Medical School, Boston, MA, 2Broad Institute, Cambridge, MA, 3Broad Institute of MIT and Harvard, Cambridge, MA

B253/P1247 Cell cycle shift from G0/G1 to S and G2/M phases is required for increased adhesion of calcium oxalate crystals on repairing renal tubular cells at injured site. S. Khamchun1, V. Thongboonkerd2,3,1;1Medical Proteomics Unit, Siriraj Hospital, Mahidol University, Bangkok, Thailand

B254/P1248 Investigating how changes in cell cycle state affect invasion-like processes during convergent extension in D. rerio. N.J. Palmisano1, R. Morabito1, A. Jang1, D.O. Matus2, B.L. Martin1,2;1Biochemistry and Cell Biology, Stony Brook University, Stony Brook, NY

B255/P1249 The E3 ubiquitin ligase TRIP12, a new mitotic protein. D. Larrieu1,2,3, M. Brunet1,2,3, N. Hanoun1,2,3, L. Ligateur1,2,3, L. Dagnon1,2,3, H. Luik1,2,3, R. Pommier4,5,6, J. Selves1,2,3, B. Jady1,2,3,6, L. Bartholin4,5,6, P. Cordelier1,2,3, M. Dufresne1,2,3, J. Torrisani1,2;1University of Toulouse, Toulouse, France, 2Inserm 1037, Toulouse, France, 3University of Toulouse III Paul Sabatier, Toulouse, France, 4University of Lyon, Lyon, France, 5Inserm 1052, Lyon, France, 6University Claude Bernard Lyon 1, Lyon, France, 7CNRS UMR5099, Toulouse, France, 8Laboratoire de Biologie Moléculaire du CNRS, Toulouse, France, 9Centre de Biologie Integrale, Toulouse, France

B256/P1250 Investigating the role of CAND1 in SCF complex subunit utilization. F.Z. Nawaz1, K. Min1, E.T. Kipreos2;2Department of Cellular Biology, University of Georgia, Athens, GA
Oncogenes and Tumor Suppressors 1

B267/P1260 Phase Separation of YAP in Osmotic Stress Transiently Shuts Down Transcription and Primes YAP for Long-term Target Gene Expression. D. Caí, S. Sukenik, D. Feliciano, M. Gruebele, J. Lippincott-Schwartz; 1Division of Pharmacology, Department of Molecular Cell Biology, Sungkyunkwan University School of Medicine, Suwon, South Korea

B267/P1261 TGF-β Induction of B7-1 is Required for Pancreatic Carcinoma Cell Migration and Expression of EMT Target Genes. J. Kang, M. Jung, E.B. Lee; 1Pulmonary and Critical Care Medicine, Mayo Clinic, Rochester, MN

B269/P1262 Human fibroblast arginase: purification and characterization. E.N. Ezima, G.A. Adenuga, F.K. Agboola; 1Biochemistry, Obalisi Onabanjo University, Ago-Iwoye, Nigeria, 2Biochemistry, Obafemi Awolowo University, Ile-Ife, Nigeria

B270/P1263 Proteomic and Genetic Interaction Mapping Reveals New Ras Pathway Effectors and Regulators. M.R. Kelly, K. Han, K. Kostyrko, N. Moneyen, E.E. Jeng, M.C. Bassik, A. Sweet-Cordero; 1Baxter Laboratories, Stanford University, Stanford, CA, 2Department of Genetics, Stanford University, Stanford, CA, 3Pediatrics, University of California San Francisco, San Francisco, CA

B271/P1264 Chromosomal instability drives hexavalent chromium-induced carcinogenesis in human lung cells. J.P. Wise, S.S. Wise, J. Toyoda; 1Wise Laboratory of Environmental and Genetic Toxicology, Dept of Pharmacology and Toxicology, University of Louisville, Louisville, KY

B272/P1265 The regulation of nuclear ErbB3 by the androgen receptor in prostate cancer cells. M.K. Jathar, S. Siddiqui, T.M. Steele, P.M. Ghosh; 1Research Services, VA Northern California Healthcare System, Mather, CA, 2Urology, University of California Davis, Davis, CA

B273/P1266 Metastatic Prostate Tumors in Bone. k. Kwakwa, J. Sterling, H. Vashnav; 1Chemistry, Tennessee State University, Nashville, TN

B274/P1267 The regulation of TAXI-binding protein 2 by p21-activated protein kinase 4 in liver cancer metastasis. C. Hu, W. Lai, Y. Ching; 1School of Biomedical Sciences, The University of Hong Kong, Hong Kong, China

B275/P1268 PS3 regulates non-transferrin-bound iron uptake via modulating ZIP14. N. Zhao, A. Zhang, C.A. Enns; 1Nutritional Sciences, The University of Arizona, Tucson, AZ, 2Cell, Developmental, and Cancer Biology, Oregon Health & Science University, Portland, OR

B276/P1269 Regulation of Epithelial-Mesenchymal Transition by interaction of ELK3 and ZEB1. H. Cho, O. Oh, J. Park, H. Kim, K. Park; 1Biomedical Science, CHA university, Seongnam, South Korea

B277/P1270 Virtual screening to discover potent inhibitor targeting the endoglin in human umbilical vein endothelium cell. C.Y. Chen, M.J. Sheu; 1Department of Pharmacy, School of Pharmacy, China Medical University, Taichung, Taiwan

B278/P1271 Investigation of Tumor Suppressor INPP4B Oxidation that regulates Akt Signaling and Actin polymerization using Fluorescence Imaging. S. Heo, D. Kang; 1Life science, Ewha Womans University, SEOUl, South Korea

B279/P1272 PA28β does not promote carcinogenesis via cellular management of oxidative stress. J. Ramesh, A. Pederson, E. Aller, L.F. Barton; 1Biology, Austin College, Sherman, TX

B280/P1273 Is Interleukin 17F (7488 A/G) Responsible For The Pathogenesis Of Breast and Gastrointestinal Cancers In Turkish Patients. K. Ozdilli, M. Gunaldi, M. Pehlivan, A.F. Nursal, N. Isiksan, M. Pehlivan; 1Medipol Mega University Hospital, Pediatric Bone Marrow Transplantation Unit, Medipol University, School of Medicine, Istanbul, Turkey, 2VM Medical Park Hospital, Department of Oncology, Aydin University, School of Medicine, Istanbul, Turkey, 3Department of Haematology, Gaziantep University, School of Medicine, Gaziantep, Turkey, 4Department of Medical Genetics, Hitt University, School of Medicine, Corum, Turkey, 5Department of Biochemistry, Dr. Sadi Konuk Training and Research Hospital, Istanbul, Turkey, 6Department of Medical Biology, Istanbul University, Istanbul School of Medicine, Istanbul, Turkey

B281/P1274 Detection of EGFR TKI sensitizing mutations from metastatic pleural fluid secondary to lung adenocarcinoma: a perspective from Southern India. C. Dhar, M. Sharma, M. Nawaz S, G. D’Souza, S. Srivastava; 1Department of Pulmonary Medicine, St. John’s Medical College and Hospital, Bangalore, India, 2St. John’s Research Institute, Bangalore, India, 3Department of General Medicine, St. John’s Medical College and Hospital, Bangalore, India, 4Department of Transfusion Medicine and Immunohaematology, St. John’s Medical College and Hospital, Bangalore, India

B282/P1275 Sirt1 deacetylation activity is necessary for the inhibition of dormant origins by interaction with replication-associated proteins. A. Baris, B. Thakur, H. Fuji, C. Redon, S. Jangi, M. Aladjem, L. Pongor; 1Laboratory of Molecular Pharmacology, National Cancer Institute, Bethesda, MD

B283/P1276 Acid Ceramidase Over-Expression Alters Cortisol Secretion in H295R Adrenal Carcinoma Cells. L.S. Turner; 1Biology, Francis Marion University, Florence, SC

B284/P1277 LncRNA H19 Upregulates EGFR-dependent MAPK signaling in Glioblastoma Multiforme. Q.S. Hooker, H.A. Arain, M.R. Dores; 1Department of Biology, Hofstra University, Hempstead, NY

B285/P1278 Cyclin E degradation by Cul3 requires the Cyclin E N-terminus. K.G. Rebola, B. Davidge, J.D. Singer; 1Biology, Portland State University, Portland, OR

B286/P1279 Stopping Transformed Cell Growth with Cytoskeletal Proteins. B. Yang, H. Wolfenson, N. Nakazawa, S. Liu, J. Hu, M.P. Sheetz; 1Mechanobiology Institute, National University of Singapore, Singapore, Singapore, 2Department of Biological Sciences, Columbia University, New York, NY, 3Department of Mechanical Engineering, Columbia University, New York, NY

B287/P1280 Selective Knock Out of an Alternately Spliced EGFR Isoform (D) Using CRISPR. N.J. Maihle, S. Yue, T. Ackley, S. Lee, G. Gronowicz, M. Fisher 2, C. Dealy; 1Cancer Institute and Dept of Medicine, University of Mississippi Medical Center, Jackson, MS, 2University of Connecticut Health Center, Farmington, CT

B288/P1281 A novel Myc-ZEB1 signaling axis co-operatively regulate epithelial integrity. J. Kaur, J.T. Chang, S.T. Eblen, J.S. Issacs; 1Department of Cell and Molecular Pharmacology, Medical University of South Carolina, Charleston, SC, 2Department of Integrative Biology and Pharmacology, University of Texas Health Science Center, Houston, TX

B289/P1282 Arbitration of PRDX5 alternate translation by hsa-miR-6855-3p following oxidative stress in metastatic breast cancer cells. M. Ellison, G. Chaudhuri, M. Chaudhuri, S. Misra; 1Microbiology, Immunology and Physiology, Meharry Medical College, Nashville, TN
Tumor Invasion and Metastasis 1

B295/P1288 EMT is decoupled from invadopodia and metastasis. L. Perrin1, B. Gligorijevic1,2; 1Bioengineering, Temple University, Philadelphia, PA, 2Cancer Cell Biology, Fox Chase Cancer Center, Philadelphia, PA

B296/P1289 PI3Kbeta Regulates Beta-1 Integrin Signaling in Invadopodia Through Formation of P1(3,4)P2. Z. Erami1, A.R. Bresnick1, J.M. Backer1; 1Molecular Pharmacology, Albert Einstein College of Medicine, Bronx, NY, 2Biochemistry, Albert Einstein College of Medicine, Bronx, NY

B297/P1290 Invadopodia are enriched in the G1 phase of the cell cycle. B. Bayarmagnai1, L. Perrin1, K. Esmaeili Pourfarhangi1, B. Gligorijevic1,2; 1Bioengineering, Temple University, Philadelphia, PA, 2Cancer Biology Program, Fox Chase Cancer Center, Philadelphia, PA

B298/P1291 Attenuation of tumor cell-based matrix remodeling and invasion by a MT1-MMP binding protein. L. Qiang1, H. Cao1, J. Chen1, S.G. Weller1, L. Zhang1, G. Razidlo1, M.A. McNiven1,2; 1Biochemistry and Molecular Biology, Mayo Clinic, Rochester, MN, 2Center for Basic Research in Digestive Diseases, Mayo Clinic, Rochester, MN

B299/P1292 Alternative polyadenylation of APC mediates formation of a short N-terminal isoform that prevents beta-catenin turnover. M. Omerzu1,2, M. Spit1, B. de Barbansson1, I. Kuper1; 1De Ridders1, M. M. Maurice2; 2Cell Biology, University Medical Center Utrecht, Utrecht, Netherlands, 3OncoDec Institute, Utrecht, Netherlands, 4Center for Molecular Medicine, University Medical Center Utrecht, Utrecht, Netherlands

B300/P1293 Role of TIC10 in MT1-MMP membrane localization at invadopodia of breast cancer cells. M. Huelsemann1, S.K. Donnelly1, S.P. Mao1, J.E. Segall1, L. Hodgson1; 1Department of Anatomy and Structural Biology, Albert Einstein College of Medicine, New York, NY

B301/P1294 mTORC1 inhibitors abrogated ductal carcinoma in situ (DCIS) to invasive breast cancer (IBC) progression via inhibition of cell cycle progression at MMP9 expression. L. Sun1, G. Chen1; 1System Cells Anatomy, University of Texas Health Science Center at San Antonio, SAN ANTONIO, TX

B302/P1295 Small leucine zipper protein (sLZIP) promotes metastasis of castration-resistant prostate cancer via the expression of the matrix metalloproteinase-13. S. Kim1, J. Ko1; 1Life science, Korea university, Seoul, Korea

B303/P1296 Ror1 promotes invasion of lung adenocarcinoma cells through small GTPase Rif-mediated filopodia formation. M. Nishita1, I. Nishikishu1, E. Yoshida1, K. Kamizaki1, H. Shibuya1, K. Matsumoto1, Y. Minami1; 1Grad. Sch. of Med., Kobe Univ., Kobe, Japan, 2Med. Res. Inst., Tokyo Med. and Dent. Univ., Tokyo, Japan, 3Cancer Res. Inst., Kanazawa Univ., Kanazawa, Japan

B304/P1297 MYO10 aberrant methylation and overexpression in lung cancer leader cells drives the formation of long filopodia that regulate fibroblast architecture and collective invasion. E.R. Summerbell1,2, J. Konen1, K. Kowalski1, P.M. Vronto1, A.I. Marcus2; 1Graduate Program in Cancer Biology, Emory University, Atlanta, GA, 2Department of Hematology and Medical Oncology, Emory University, Atlanta, GA, 3Department of Thoracic/Head and Neck Medical Oncology, The University of Texas MD Anderson Cancer Center, Houston, TX, 4Department of Biostatistics and Bioinformatics, Emory University, Atlanta, GA, 5Department of Radiation Oncology, Emory University, Atlanta, GA

B305/P1298 Self-organization of brain tumors: molecular and cellular dynamics of oncostreams, and their role in tumor malignancy. A. Comba1,2, A.E. Argento1,2, P.J. Dunn1,2, D. Zamer1,2, P. Kadiyal1,2, V.N. Vadav1,2, S. Motsch1,2, C. Koscsmann1,2, F.J. Nunez-Aguilera1,2, M.B. Edwards1,2, A. Kahana1, P.E. Kish1, F.Y. Tamar4, W.J. Stephen5, M.G. Castro1,2, J. O’Connell1, J. Konen1, K. Kowalski1, P.M. Vronto1, A.I. Marcus2; 1Graduate Program in Cancer Biology, Emory University, Atlanta, GA, 2Department of Hematology and Medical Oncology, Emory University, Atlanta, GA, 3Department of Radiation Oncology, Emory University, Atlanta, GA

B306/P1299 EGF/Erk2 Contributes to Glioblastoma Migration by Reducing Cell-Matrix Adhesion. A. Banisadr1, B. P. Berti1, A. Fuhrmann1,2, 3; 1Biomedical Sciences, UCSD, San Diego, CA, 2Bioengineering, UCSD, UCSD, CA, 3Pathology, UCSD, San Diego, CA

B307/P1300 Role of gastric gland mucin-specific O-glycan sGloNAC in gastric cancer development. C. Fujii1,2, A. Yuki1, S. Harumya1, K. Yamanoi1,2, M. Kawakubo1, J. Nakayama1,2; 1Molecular Pathology, Shinsu University School of Medicine, Matsumoto, Japan, 2Institute of Biomedical Sciences, Interdisciplinary Cluster for Cutting Edge Research, Shinsu University, Matsumoto, Japan

B308/P1301 Integrin-mediated regulation of mitochondrial trafficking integrates avoidance of oxidative catastrophe and cancer invasion. Y. Oonda1,2, J. Am1, M. Horikawa1, H. Shirato1,2, H. Sabe1; 1Molecular Biology, Faculty of Medicine, Hokkaido University, Sapporo, Japan, 2Global Institute for Collaborative Research and Education, Hokkaido University, Sapporo, Japan, 3Radiation Medicine, Faculty of Medicine, Hokkaido University, Sapporo, Japan

B309/P1302 Adhesion strength regulates durotaxis in metastatic cancer cells. B.M. Yeom1,2, P. Beri1, P. Katira1, A.J. Engler1; 1Mechanical Engineering, San Diego State University, San Diego, CA, 2Bioengineering, University of California San Diego, San Diego, CA

B310/P1303 Constricted migration increases DNA damage and independently represses cell cycle. C.R. Pfeifer1,2, J. Xia3, K. Zhu3, D. Liu3, J. Irianto3, V.M. Morales Garcia1, J.M. Santiago Millan1,2, B. Niese1, S.M. Harding1,2,4, D. Devi5, R.A. Greenberg5, D.E. Discher2,3; 1Physical Sciences Oncology Center at Penn (PSOC@Penn), University of Pennsylvania, Philadelphia, PA, 2Molecular Cell Biophysics Lab, University of Pennsylvania, Philadelphia, PA, 3Graduate Group / Department of Physics Astronomy, University of Pennsylvania, Philadelphia, PA, 4Basser Center for BRCA, Abramson Family Cancer Research Institute, Perelman School of Medicine, Philadelphia, PA, 5Department of Chemical and Biological Physics, Weizmann Institute of Science, Rehovot, Israel

B311/P1304 The contribution of cell plasticity to cancer cell migration through physical constraints. G. Spennati1, D.A. Rudzka1, M.F. Olson1, H. Yin1; 1Biomedical Engineering, University of Glasgow, Glasgow, United Kingdom, 2Department of Invasion and Metastasis, Beatson Cancer Institute, Glasgow, United Kingdom

B312/P1305 The role of lipid metabolism in anchor cell invasion in C. elegans. A. Garde1,2,3, Y. Li4, D.R. Sherwood1; 1Cell Biology Department, Duke University, Durham, NC, 2Biology Department, Duke University, Durham, NC

B313/P1306 Combined TOR and CDK4/6 blockade averts cell invasiveness in a C. elegans model of basement membrane invasion. M.A. Martinez1,2,1, A.A. Kohrman1, S.Y. Hui1, D.Q. Matus1,2,3; 1Pharmacological Sciences, Stony Brook University School of Medicine, Stony Brook, NY, 2Biochemistry and Cell Biology, Stony Brook University, Stony Brook, NY, 3Medical Scientist Training Program, Stony Brook University School of Medicine, Stony Brook, NY

SUNDAY
Board No./Presentation No.
B314/P1307 Regulation of breast tumor metastasis by the dynamic interaction between the TMEM macrophage, tumor cell and endothelial cell. C.R. Surve1, A. Harney2, X. Chen1, Y. Wang1, D. Entenberg3, E. Stanley4, M.H. Oktay1, J.S. Condeelis1; 1Anatomy and Structural Biology, Albert Einstein college of Medicine, Bronx, NY, 2Developmental Molecular Biology, Albert Einstein college of Medicine, Bronx, NY, 3Pathology, Albert Einstein college of Medicine, Bronx, NY

B315/P1308 Rx7, a novel AKT-phosphorylation inhibitor, induces apoptosis, reduced proliferation and cell migration in TNBC by modulation of AKT/GSK3 signalling pathways via the ROR1 receptor. N. Fultz4, A. Illendu5, I. Mercier6, Z. Klas7, B. Peethambaram8; 1Biological Sciences, University of the sciences, Philadelphia, PA, 2Pharmaceutical Sciences, University of the sciences, Philadelphia, PA, 3ASCB | EMBO Meeting 2018

B316/P1309 A chaperon-like protein HYPK binds Arl4 small GTPases to modulate cell modulation of AKT/GSK3 signalling pathways via the ROR1 receptor. N. Fultz4, A. Illendu5, I. Mercier6, Z. Klas7, B. Peethambaram8; 1Biological Sciences, University of the sciences, Philadelphia, PA, 2Pharmaceutical Sciences, University of the sciences, Philadelphia, PA, 3ASCB | EMBO Meeting 2018

B317/P1310 Specific requirement for Ras interference 1 during cell migration. W. Zhang1, M.A. Barbieri2,3,4; 1Chemistry and Biochemistry, Florida International University, Miami, FL, 2biology, Florida International University, MIAMI, FL, 3Biomolecular Sciences Institute, Florida International University, Miami, FL, 4International Center of Tropical Botany, Florida International University, Miami, FL, 5Botanic Garden, Fairchild Tropical Botanic Garden, Coral Gables, FL

B318/P1311 FilGAP, a GAP protein for Rac1, contributes to tumor cell migration by regulating front-rear polarity. K. Saito1, N. Kambara2, Y. Ohta3; 1Department of Biosciences, Kitasato University, Sagamihara, Japan

B319/P1312 Measuring T-cell avidity and enrichment using an acoustic force based technology. W. Schep1, E. Merino1, R. Braster2, G. Sitters1, F. Oswald1, T. Schumacher1, A. Candelli1; 1Department of Molecular Oncology and Immunology, the Netherlands Cancer Institute, Amsterdam, Netherlands, 2LUMICKS b.v., Amsterdam, MA

B320/P1313 Combining Cell Barcoding and CRISPR sgRNA Libraries with Targeted Gene Expression for Single Cell Genetic Analysis of Tumor Metastasis. A.A. Chenchik1, P. Diehl1, M. Makanov1, C. Frangou1, C. Cellcta, Inc., Mountain View, CA

Cancer Therapy 1

B321/P1314 BubR1 depletion delays apoptosis and impedes DNA repair in microtubule- depolymerized cells. A. Naaz1, S. Ahad1, A. Rai1, A. Surolia1; 1Biology and Bioengineering Department, Indian Institute of Technology Bombay, Mumbai, India, 2Molecular Biophysics Unit, Indian Institute of science, Bangalore, India

B322/P1315 CDK7 inhibitor BS-181 induced the extrinsic apoptosis that can be synergized by exogenously added TRAIL or G, blocking agent in human Jurkat T cells. S. Park1, Y. Jo1, M. Lee1, D. Juhn1, Y. Kim1; 1School of Life Science and Biotechnology, College of National Science, Kyungpook National University, Daegu, South Korea

B323/P1316 Effect of Mebendazole dependent Myb inhibition in NRAS mutant AML. A. Khoroshilov1, M. Lee Antoine2, K. Noble-Orcutt3, K. Zachs4, Z. Zachs; 1Chemistry, MIT, Cambridge, MA, 2Medicine, University of Minnesota, Minneapolis, MN, 3Next Generation Analytics, Palo Alto, CA

B324/P1317 Proposing a new chemotherapeutic drug combination for effective inhibition of serous ovarian and endometrial cancer cells. R.P. Gogoii, V. Dasani2; 1Molecular and Functional Genomics, Geisinger Clinic, Danville, PA, 2Women, Geisinger Clinic, Danville, PA

B325/P1318 The ultrapotent corticosteroid, clobetasol, promotes quiescence in the vulvar carcinoma cell line, UMSCC-4. J.E. Lewis1, M. Lin2,3; 1Biomolecular Sciences Institute, University of Wisconsin-Madison, Madison, WI, 2Physiology, University of Wisconsin-Madison, Madison, WI, 3Mechanobiology Institute, University of Texas at El Paso, El Paso, TX

B326/P1319 Genetic features predictive of response to anti-androgen therapies in aggressive prostate cancer. S. Wilkinson1, A.G. Sowalsky2, H. Ye1, N. Carrabba3, R. Atway2, S.Y. Trostel2, S.T. Hennigani1, R. Lake1, S. Harmon1, B. Turkbey1, P.A. Pchoy1, P.L. Choyke1, F. Karzai1, W.L. Tahut1, K. Kelly1, D.J. VanderWeele1; 1LGCP, National Cancer Institute, Bethesda, MD, 2Israel Deaconess Medical Center, Boston, MA

B327/P1320 Alternate use of Trogilotaze for the treatment of pharyngeal cancer. H. Yoo1, T. Do Thi Anh1; 1Dept. of Pharmacology and Dental Therapeutics, Chosun Univ., Gwangju, South Korea

B328/P1321 Determining the mechanism and increasing the efficacy of microtubule poisons. L. Look1, R.F. Molin1, J. Wan1, M.E. Burkd1, B.A. Weaver1; 1Molecular and Cellular Pharmacology, University of Wisconsin-Madison, Madison, WI, 2Cell and Regenerative Biology, University of Wisconsin-Madison, Madison, WI, 3Physiology, University of Wisconsin-Madison, Madison, WI, 4Onology, University of Wisconsin-Madison, Madison, WI

B329/P1322 Selective inhibitor of Hematopoietic Cell Kinase (HCK) in a model of acute promyelocytic leukemia mice. F.M. Rosovers1, C.O. Torella1, K.V. Ferro1, F.J. Della Via1, A. Molinar1, M. Botta1, S.T. Saad1; 1Universidade São Francisco, Bragança Paulista, Brazil, 2Hematology and Transfusion Medicine Center-University of Campinas, Campinas, Brazil, 3Dipartimento di Biotecnologie, Chimica e Farmacia-Università degli Studi di Siena, Siena, Italy

B330/P1323 Enforcing cellular stress promotes apoptotic and immunogenic responses in melanoma. S.M. Daingnant1, L. Spoerri2, R.J. Ju2,3, D.H. Hill1, S.J. Stehbens2, R. Dolcetti1, N.K. Haas1,2,3; 1Diamantina Institute, University of Queensland, Brisbane, Australia, 2Translational Research Institute, Woolloongabba, Australia, 3The Centenary Institute, Newtown, Australia, 4Dermatological Sciences, Newcastle University, Newcastle upon Tyne, United Kingdom

B331/P1324 Induction of apoptosis via proteasome inhibition in leukemic promyelocytic cell lines by two potent piperidones. L. Contreras1, R.J. Calderon1, A. Varela1, H. Zhang2, U. Das2, J.R. Dimmock2, R. Skouta1, R.J. Aguilera1; 1Biological Sciences, The University of Texas at El Paso, El Paso, TX, 2Hubei Key Laboratory of Agricultural Bioinformatics, College of Informatics, Huazhong Agricultural University, Wuhan, China, 3Drug Discovery and Development Research Group, College of Pharmacy and Nutrition, University of Saskatchewan, Saskatoon, Canada, 4Department of Chemistry, Border Biomedical Research Center, The University of Texas at El Paso, El Paso, TX

B332/P1325 An effective antimarial drug induces potent cytotoxicity through apoptosis in human breast and hematological cancer cells. P. Villanueva1, A. Martinez2, S.T. Baca1, R.E. DeJesus1, M. Larragoity1, A. Varela1, R.J. Aguilera1; 1Biology, University of Texas at El Paso, El Paso, TX, 2Biology, City University of New York, New York, NY

B333/P1326 Characterizing the role of TIE2 and TIE2 neutralization in cancer cell dormancy and bone metastases. F. Drescher1, S. Duenas1, P. Juarez1, A. Licea-Navarro1, P.G. Fournier1; 1Departamento de Innovacion Biometrica, Centro de Investigacion Cientifica y de Educacion Superior de Ensenada, Ensenada, Mexico

B334/P1327 Water-soluble manethianferulol congenol [60S1][C6H10O4((OH)4]6 downregulates mitochondrial potential in malignant tumor cells. G.R. Tarasova1, M.O. Grnzikova1, G.M. Fazeleva1, V.P. Gubskaya1, A. Rizovanov1, G.V. Cherепнев1, N.V. Kalacheva1; 1Institute of Fundamental Medicine and Biology, Kazan Federal University, Kazan, Russia, 2Laboratory of functional materials, A.E. Arbuzov Institute of Organic and Physical Chemistry, RAS, Kazan, Russia, 3University Hospital “Kazan”, Kazan Federal University, Kazan, Russia

B335/P1328 A novel approach in colorectal cancer and diabetes management: Role of metformin and rapamycin. A. Geagea1,2, M. Rizzo1, A.R. Jurus1, S. Al Kattar1, F. Cappello1, G. Tomasello2; 1Anatomy, Cell Biology and Physiology, American University of Beirut, Beirut, Lebanon

B336/P1329 A Wee1 kinase inhibitor increased cytotoxicity of oncolytic adenoviruses in p53-deficient cells. T. Morinaga1, N.T. Thao1,2, Z. Boya1, M. Tagawa1,2; 1Division of Pathology and Cell Therapy, Chiba Cancer Center Research Institute, Chiba, Japan, 2Department of Molecular Biology and Oncology, Graduate School of Medicine, Chiba University, Chiba, Japan

Sunday Poster Session
Tumor Microenvironment 1

B344/P1337 Inhibition of mechanical signaling reduces malignant transformation of mammary epithelial cells on a dynamically stiffened matrix. J.K. Placone1, M.G. Ondreck2, P. Beri1, C.M. Plunkett3, B. Franzen Matte3, K. Wong3, D. Kim1, L. Fattet3, J. Yang4, A.J. Engler1,2; 1Department of Bioengineering, University of California San Diego, La Jolla, CA, 2Material Science Program, University of California San Diego, La Jolla, CA, 3Department of Oral Pathology, Federal University of Rio Grande do Sul, Porto Alegre, Brazil, 4Department of Pharmacology, University of California San Diego, La Jolla, CA

B345/P1338 Role of microenvironmental stress in increased breast cancer risk. C.C. Cosby1, S. Chittiboyina1, S.A. Leliere2; 1Biological Sciences, Purdue University, West Lafayette, IN, 2Basic Medical Sciences, Purdue University, West Lafayette, IN

B346/P1339 Increased Malignancy Attenuates Stiffness Mediated Invasion in Mammary Epithelial Cells. C.M. Plunkett1, P. Beri2, J.K. Placone2, J. Yrastorza2, Y. Hou3, D. Kim1, L. Fattet2, J. Yang4, A.J. Engler1,2; 1Biomedicine, University of California San Diego, La Jolla, CA, 2Molecular Biology, University of California San Diego, La Jolla, CA, 3Pharmacology, University of California San Diego, La Jolla, CA

B347/P1340 Metastatic tumor growth is accelerated along the surface of the lung. D.R. Choi1, H.Y. Kim3; 1Institute for Basic Science, Daejeon, South Korea

B348/P1341 SPIN5st. Depletion and Microtubule Acetylation Regulate Stromal Fibroblast Activation in Breast Cancer Progression. E. You1, Y. Huh1, P. Ko2, J. Jeong3, S. Keum1, J. Lee1, J. Kim1, M. Rahman1, W. Song3, S. Rhee1; 1Department of Life science, Chung-Ang University, Seoul, South Korea, 2School of Life Sciences, Gwangju Institute of Science and Technology, Gwangju, South Korea

B349/P1342 Tenascin-C induces differentiation of mammary fibroblasts into myofibroblasts with high contractility. D. Katoh1, Y. Shiraki1, K. Imanaka-Yoshida1, T. Yoshida2; 1Pathology, Mie University Graduate School of Medicine, Tsu, Japan

B350/P1343 Programmed Death-Ligand 1 (PD-L1) Metabolic Modulation Provides Mechanistic and Therapeutic Insight. A. Palermo1, S. Spangenberg1, C. Gujias1, L. Lairson2, G. Sluzdak3,4; 1The Scripps Center for Metabolomics and Mass Spectrometry, The Scripps Research Institute, La Jolla, CA, 2Department of Chemistry, The Scripps Research Institute, La Jolla, CA, 3Department of Molecular and Computational Biology, The Scripps Research Institute, La Jolla, CA

B351/P1344 Orchestration of a subset of O-glycosylation by a conserved atypical MFS family member facilitates macrophage dissemination and tissue invasion. K. Valoskova1, J. Biebl1, M. Roblek1, S. Emtenani2, A. György1, M. Misova1, J. Stopp1, S. Wachner1, A. Ratheesh1, K. Shkarina1, I.S. Larsen2, S. Vakhрушев1, H. Clausen1, D.E. Siekhaus2; 1Institute of Science and Technology Austria, Klosterneuburg, Austria, 2Department of Biochemistry, University of Lausanne, Epalinges, Switzerland, 3Copenhagen Center for Glycomics, University of Copenhagen, Copenhagen, Denmark

B352/P1345 ELK3 regulates pro-metastatic communication between lymphatic endothelial cells and cancer cells by exosomal miRNAs. K. Kim1, K. Park1; 1Department of Biomedical Science, CHA University, Seongnam, South Korea

B353/P1346 Effect of breast cancer cells-secretome on proliferation and migration of umbilical cord-derived Wharton’s jelly derived mesenchymal stem cells. A.L. Sánchez-Corrales1, C.C. Calzada-Mendoza1, A. Parra-Barrera1, C.M. Mejía-Barradas1, M.E. Ocharan-Hernández1, G. Gutiérrez-Iglesias1; 1posgrado, Instituto Politecnico Nacional, 11340, Mexico

B354/P1347 Exosomal miRNAs regulate Macrophage-Cancer Communication in Cancer Immune Microenvironment. S. Kim1, S. Kim1, S. Oh1; 1Biomedical Research Institute, Korea Institute of Science and Technology, Seoul, South Korea

B355/P1348 Differential Biological Effects of Steroids and Other Chemical Inhibitors Between Mouse and Human Melanoma Cell Lines. K. Joshi1, P. Ramaraj1; 1Graduate Studies, Bowling Green State University, Bowling Green, OH, 2Biochemistry, A.T.Still University, Kirksville, MO

B356/P1349 Oxidative Catalytic Activity of Copper-Doped Zeolite Imidazole Framework-8 Nanocrystal for Cancer Cell Imaging. S. Park1, H. Kang1, Y. Cheon1, C. Keum1, S. Lee1, S. Lee1; 2Gwangju center, Korea Basic Science Institute, Gwangju, South Korea, 3Department of chemical and biomolecular engineering, Yonsei University, Seoul, South Korea

B357/P1350 Interaction between the laminin-derived peptide C16 with beta 1 integrin in breast cancer cells. M.U. Galheiro1, R.S. Mateus1, M.C. Cruz2, V.M. Freitas1, R.G. Jaeger1; 1Department of Cell and Developmental Biology, University of São Paulo, SÃO PAULO, Brazil, 2Core Facility for Scientific Research, University of São Paulo, SÃO PAULO, Brazil
Post-Transcription Gene Regulation
B369/P1381 Identification of a step-wise assembly pathway for stress granules assembled in vitro. J. E. Wilhelm1, K. Begovich1; 1Cell and Developmental Biology, University of California, San Diego, San Diego, CA
B370/P1382 The human retrotransposon LINE-1 condenses with cellular phase-separated bodies. S. Sfî1, E. M. Adney1, G. P. Brittingham1, P. Mita1, J. D. Boeke1, L. Holt1; 1Institute for Systems Genetics, New York University Langone Medical Center, New York, NY
B371/P1383 Identifying functional targets reveals that inhibition of Pumilio-mediated mRNA decay increases cell resistance to DNA damage. T. Yamada1, N. Akimitsu1, M. Nagahama1; 1Department of Chemistry and Biochemistry, Meiji Pharmaceutical University, Tokyo, Japan, 2Isotope Science Center, University of Tokyo, Tokyo, Japan
B372/P1384 Mechanisms of alternative GAI1 mRNA translation. C. C. James1, J. W. Smyth1; 1Translation Biology, Medicine, and Health, Virginia Tech, Blacksburg, VA, 2Virginia Tech Carilion Research Institute, Roanoke, VA, 3Center for Heart and Regenerative Medicine, Virginia Tech Carilion Research Institute, Roanoke, VA, 4Biological Sciences, Virginia Tech, Blacksburg, VA

Regulatory and Noncoding RNAs
B379/P1371 Characterizing DGC88 heme-binding mutation in vivo. B. A. Kumar1, A. C. Partin1, L. Li2, H. Zhu3, Y. Nam2; 1Children’s Research Institute, Departments of Pediatrics and Internal Medicine, Center for Regenerative Science and Medicine, University of Texas Southwestern Medical Center, Dallas, TX, 2Department of Biophysics, University of Texas Southwestern Medical Center, Dallas, TX
B380/P1372 Cellular Stress Responses in Functional Somatic Noncoding ncRNA: From Genetic to Epigenetic Codes by Modular Biocombinatorics and their Algorithms. J. H. Wissler1; 1ARCOS Institute for Applied Research Didactics, 61231 Bad Nauheim jhw@arcos-research.de, Germany
B381/P1373 The role of cancer and locus specific IncRNAs in driving chromosome fragility. G. Arunkumar1, Y. Dalal1; 1IRBGE, National Cancer Institute/NIH, Bethesda, MD
Nuclear Pore Complexes and Nucleocytoplastic Transport

B386/P1377 Influenza Virus Uses Transportin 1 for VRNP Uncoupling During Cell Entry. Y. Yamachi1, Y. Miyake2, J. Keusch3, L. Decamps4, H. Ho-Xuan5, H. Gut6, U. Kutay7, A. Helenius8;1, Cellular and Molecular Medicine, University of Bristol, Bristol, United Kingdom, 2Biochemistry, ETH Zurich, Zurich, Switzerland, 3Graduate School of Medicine, Nagoya University, Nagoya, Japan, 4Friedrich Miescher Institute for Biomedical Research, Basel, Switzerland

B387/P1378 mTORC1 controls glycogen synthase kinase 3β nuclear localization and function. S.J. Bautista1, I. Boras2, A. Vissa3, N. Meca3, C.M. Yip1, 2, P.K. Kim1, 3, C.N. Antonescu1, 2; 1Chemistry and Biology, Ryerson University, Toronto, ON, 2Institute of Biomatierials and Biomedical Engineering, University of Toronto, ON, 3Department of Chemical Engineering and Applied Chemistry, University of Toronto, ON, 4Program in Cell Biology, The Hospital for Sick Children, Toronto, ON, 5Keenan Research Centre for Biomedical Science of St. Michael’s Hospital, Toronto, ON

B388/P1379 Effect of HER2 expression on NUP145 protein in cervical cancer cells. J.J. Adler1, M. Ballou1, M. Eichholz1, T. Haight1, J. Minton1, R. Oates1; 1Biology, Brescia University, Owensboro, KY

B389/P1380 Reconstructing spatial features of nucleocytoplastic transport using projected cargo localizations. M. Huisman1, C. Smith1, Y. Chung2, L. Tu2, D. Grunwald3; 1RNA Therapeutics institute, Umsms Medical School, Worcester, MA

B390/P1381 Analysis of molecular transport through nuclear membranes with focused ion beam and optical nanoprobes. J. Wissler1, J. Wissler2; 2ARCOS Applied Research & Didactics, Bad nauheim, Germany, 3TESCAN, Dortmund, Germany

B391/P1382 Exploring a possible link between altered miRNA splicing and Nuclear Envelope Budding. B. Jenkins1, S. Neuman1, Y. Kang2, A. Chang2, C. Lambo1, G. Waller-Stevenson2, S. Speese2; 1Neurology, Oregon Health and Science University - Jungers Center for Neuroscience Research, Portland, OR, 2School of Pharmacy, University of Wisconsin-Madison, Madison, WI, 3Oregon Health and Science University - Vollum Institute, Portland, OR

B392/P1383 Analysis of Gp210 function in Drosophila melanogaster. B. Jenkins1, B. Darwin1, A. Chang1, C. Lambo1, G. Waller-Stevenson2, S. Speese2; 1Neurology, Oregon Health and Science University - Jungers Center for Neuroscience Research, Portland, OR

B393/P1384 Copy number and function of individual disordered proteins in the nuclear pore complex revealed by combining auxin-inducible degron strategy and high-speed single-molecule microscopy. Y. Li1, V. Aksenova2, J. Yu1, C. Ma1, A. Arnaoutov1, M. Dasso1, W. Yang1; 1Biology Department, Temple University, Philadelphia, PA, 2Eunice Kennedy Shriver National Institute of Child Health and Human Development, National Institutes of Health, Bethesda, MD

B394/P1385 Structure-function analysis of the inner ring complex of the NPC in chromatin organization and gene silencing. S. Kumar1, M.L. Neal1, I. Nudelman2, S. Li1, A.T. Navare2, T. Herricks1, F.D. Mast1, J. Fernandez-Martinez1, R.L. Moritz1, M.P. Rout2, J.D. Aitchison1, 3; 1Department of Molecular Biology, University of California, Berkeley, Berkeley, CA, 2Electron Microscopy Lab, University of California, Berkeley, Berkeley, CA

B395/P1386 Nuclear pore complexes and age-induced protein aggregates are excluded from gametes during budding yeast meiosis. G.A. King1, J.S. Goodman1, D. Jorgens2, E. Unal1; 1Molecular and Cell Biology, University of California, Berkeley, Berkeley, CA, 2Electron Microscopy Lab, University of California, Berkeley, Berkeley, CA

B396/P1387 Cytoplasmic volume and limiting nucleoplasmic scale nuclear size during Xenopus laevis development. P. Chen1, M. Tomshick1, K. Nelson2, 3, J.S. Oakey1, J.C. Gatlin1, D.L. Levy1; 1Molecular Biology, University of Wyoming, Laramie, WY, 2Chemical Engineering, University of Wyoming, Laramie, WY

B397/P1388 Increased NTF2 levels in melanoma cell lines affect nuclear size and gene expression. L.D. Vukovic1, D.L. Levy1; 1Department of Molecular Biology, University of Wyoming, Laramie, WY

B398/P1389 Mechanisms controlling nuclear growth. M. Mauro1, S. Bahmanyar1; 1Molecular, Cellular and Developmental Biology, Yale University, New Haven, CT

B399/P1390 Nuclear laminas provide a structural framework that anchors nuclear pore complexes. M. Kittisopikul1, T. Shimi1, 2, M. Tatli1, S.A. Adam1, Y. Zheng2, O. Medalia3, 4, K. Jaqaman1, 2, R.D. Goldman1; 1Department of Cell and Molecular Biology, Feinberg School of Medicine, Northwestern University, Chicago, IL, 2Department of Biophysics, UT Southwestern Medical Center, Dallas, TX, 3Department of Biological Sciences, Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology, Yokohama, Japan, 4Department of Biochemistry, University of Zurich, Zurich, Switzerland, 5Department of Embryology, Carnegie Institute for Science, Baltimore, MD, 6Department of Life Sciences and the National Institute for Biotechnology in the Negev, Ben Gurion University of the Negev, Beer-Sheva, Israel, 7Lyda Hill Department of Informatics, UT Southwestern Medical Center, Dallas, TX

B400/P1391 TorsinA and Neuronal Nuclear Pore Complex Biogenesis. S. Kim1, S.S. Pappas1, W.T. Dauer1, 2, 3; 1Cellular and Molecular Biology Graduate Program, University of Michigan, Ann Arbor, MI, 2Department of Neurology, University of Michigan, Ann Arbor, MI, 3Department of Cell Developmental Biology, University of Michigan, Ann Arbor, MI

B401/P1392 TorsinA polymerization within the nuclear envelope revealed by fluorescence fluctuation spectroscopy. K. Hur1, J. Hennen2, J.D. Mueller1, G. Luxton1; 1Department of Genetics, Cell Biology, and Development, University of Minnesota, Minneapolis, MN, 2School of Physics and Astronomy, University of Minnesota, Minneapolis, MN

B402/P1393 ESCRT-III/Vps4 functions through Lem2 to remodel heterochromatin-nuclear envelope attachments and seal the nuclear envelope at mitotic exit. G. Pieper1, 2, S. Sprenger1, D. Teis3, S. Oiferenko1, 2, Randall Division for Cell and Molecular Biophysics, King’s College London, London, United Kingdom, 3The Francis Crick Institute, London, United Kingdom, 4Division of Cell Biology, Innsbruck Medical University, Innsbruck, Austria

B403/P1394 Coordinating membrane incorporation with ESCRT-III-dependent remodeling generates a sealed nuclear envelope. L. Penfield1, R. Azamfrei1, S. Bahmanyar1; 1Molecular Cellular and Developmental Biology, Yale University, New Haven, CT
Endocytic Trafficking 1

B405/P1395 A new approach to reconstruct dynamic information from static superresolution images reveals structural rearrangements of proteins during endocytosis. P. Hoessl1, Y. Wu1, M. Mund1,2, J. Deschamps1, M. Kaksonen1, J. Ries1,2; 1Cell Biology Biophysics Unit, European Molecular Biology Laboratory, Heidelberg, Germany, 2Department of Biochemistry, University of Geneva, Geneva, Switzerland

B406/P1396 Systematic superresolution analysis of endocytosis reveals an actin nucleation nano-template that drives efficient vesicle formation. M. Mund1,2, J. Beek1, J. Deschamps2, S. Dmitrieff1,2, J. Ries1,2; 1Department of Biochemistry, University of Geneva, Geneva, Switzerland, 2Cell Biology and Biophysics, European Molecular Biology Laboratory, Heidelberg, Germany

B407/P1397 Nano-scale live-cell imaging of morphological changes of plasma membrane during clathrin-mediated endocytosis with fast-scanning atomic force microscopy. A. Yoshida1, N. Saka1, S.H. Yoshimura1, Y. Ohba1,2; 1Department of Cell Physiology, Faculty of Medicine and Graduate School of Medicine, Hokkaido University, Sapporo, Japan, 2RD Group, OLYMBUS Corporation, Hachioji, Japan, 3Laboratory of Plasma membrane and Nuclear Signaling, Graduate School of Biostudies, Kyoto University, Kyoto, Japan

B408/P1398 Label free live cell membrane imaging thanks to supercritical angle scattering. M. Bardou1, A. Mao1, E. Fort1, S. Lévéque-Fort1; 1CNRS UMR 8214, Université Paris Sud, Université Paris Saclay, Institut des Sciences Moléculaires d’Orsay (ISMO), Orsay, France, 2CNRS, PSL Research University, Institut Langevin, ESPCI ParisTech, Paris, France

B409/P1399 Dual depth live cell imaging with self-interference Supercritical Angle Fluorescence. A. Mao1, M. Bardou1, N. Bourg1, E. Fort1, S. Lévéque-Fort1; 1CNRS UMR 8214, Université Paris Sud, Université Paris Saclay, Institut des Sciences Moléculaires d’Orsay (ISMO), Orsay, France, 2CNRS, PSL Research University, Institut Langevin, ESPCI ParisTech, Paris, France

B410/P1400 Mechanobiology of endocytic vesicle formation analyzed by Sla2 force sensors. M. Abe1,2, L.S. Andruck1,2, G. Malengoz1,2, V. Sourjik1,2, M. Skruzny1,2; 1LOEWE Center for Synthetic Microbiology (SYMMIKRO), Marburg, Germany, 2Max Planck Institute for Terrestrial Microbiology, Marburg, Germany

B411/P1401 The functional architecture of the endocytic coat analyzed by FRET. M. Skruzny1,2, E. Poh1,2, S. Gnoth1,2, G. Malengoz1,2, V. Sourjik1,2; 1LOEWE Center for Synthetic Microbiology (SYMMIKRO), Marburg, Germany, 2Max Planck Institute for Terrestrial Microbiology, Marburg, Germany

B412/P1402 Unraveling Cargo Rotation at Microtubule Intersections during Intracellular Trafficking. Y. Yu1,2; 1Chemistry, Indiana University, Bloomington, IN, 2Department of Molecular, Cellular, and Developmental Biology, University of Colorado at Boulder, Boulder, CO

B413/P1403 Constructing the endosomal sorting network using interaction proteomics. S. Swarup1, J.A. Paulo1, S.P. Gyg11, J.W. Harper1,2; 1Cell Biology, Harvard Medical School, Boston, MA

B414/P1404 Dissecting Hidden Mobility States of Recycling Sypnic Vesicle Mobility. M. Joensuu1,2, R. Martinez-Mármol1,2, P. Padmanabhan1,2, M. Molla1,2, N. Rass1, N. Duris2, M. Plekenk2, E. Cooper-Williams3, A.T. Badem1,2, I. Morrow1,2, C.B. Harper1,2, W. Jungh1,2, A. Papadopoulos1,2, R. Amor1,2, G. Balistreri1, J.J. Cooper-White1,2,4, R.G. Parton1,2, G.J. Goodhil1,2, F.A. Meunier1,2; 1Queensland Brain Institute, The University of Queensland, Clem Jones Centre for Ageing Dementia Research, St Lucia, Australia, 2Biomedical Helsinki, Minerva Institute for Medical Research, Helsinki, Finland, 3The University of Queensland, Queensland Brain Institute, St Lucia, Australia, 4The University of Queensland, Australian Institute for Bioengineering and Nanotechnology, St Lucia, Australia, 5The University of Queensland, Institute for Molecular Bioscience, St Lucia, Australia, 6The University of Queensland, Centre for Microscopy and Microanalysis, St Lucia, Australia, 7Department of Biosciences, The University of Helsinki, Division of General Microbiology, Helsinki, Finland, 8The University of Queensland, School of Chemical Engineering, St Lucia, Australia, 9CSIRO, Materials Science and Engineering Division, Clayton, Victoria, Australia, 10The University of Queensland, School of Mathematics and Physics, St Lucia, Australia

B415/P1405 A Flat BAR Protein Promotes Actin Polymerisation at the Base of Clathrin Coated Pits. L. Almeida-Souza1,2, R.A. Frank1, J. Garcia-Nafria1, A. Colussi1, N. Gunawardana1, C.M. Johnson1, M. Yu1, G. Howard1, B. Andrews1, Y. Vallis1, H.T. McMahon1; 1MRC Laboratory of Molecular Biology, Cambridge, United Kingdom

B416/P1406 ERM proteins as actin linkers in clathrin-mediated endocytosis. A.S. Kvalvaag1, K.O. Schink1, A. Brech1, K. Sandvig1, S. Pust1; 1Department of Molecular Cell Biology, Institute for Cancer Research, Oslo University Hospital, Oslo, Norway, 2Department of Biosciences, University of Oslo, Oslo, Norway

B417/P1407 Roles for SH3- and PRM-containing proteins in actin assembly at sites of clathrin-mediated endocytosis in mammalian cells. M. Jin1, D.G. Drubin1; 1Department of Molecular and Cell Biology, University of California, Berkeley, Berkeley, CA

B418/P1408 The ubiquitin ligase Itch is required for EGF receptor endocytosis. R. Aoyubi1, P.S. McPherson1, A. Angers1; 1Biological Sciences, University of Wyoming, Laramie, WY, 2Department of Neurology and Neurosurgery, University of Wyoming, Laramie, WY

B419/P1409 Doa4, a ubiquitin hydrolase, interacts with ESCRT-III to endosomes to regulate membrane scission. D. Buyssse1, M. West1, G. Odorizzi1; 1Molecular, Cellular, and Developmental Biology, University of Colorado at Boulder, Boulder, CO

B420/P1410 Methionine triggers endocytosis via Ppz phosphatase-mediated dephosphorylation of ubiquitin ligase adaptors. S. Lee1, H. Ho2, J.A. MacGurn1; 1Cell and Developmental Biology, Vanderbilt University School of Medicine, Nashville, TN, 2Weill Institute for Cell and Molecular Biology, Cornell University, Ithaca, NY

B421/P1411 How does Ubiquitin-Binding Adaptors Recognize Their Specific Targets among Multiple Ubiquitinated-Cargoes? A. Sen1, W. Hsieh1, C. Hanna1, R.C. Aguilar2; 1Biological Sciences, Purdue University, West Lafayette, IN

B422/P1412 CDH1 regulates ALIX-dependent GPCR lysosomal sorting by modulating the activity of the E3-Ligase WWPP2. C. Kotsis1, H. Singh1, P. Giannaris1, M.R. Dores2; 1Biology, Hofstra University, Hempstead, NY, 2John F. Kennedy High School, Bellmore, NY

B423/P1413 CK1ε promote endocytosis through interaction and phosphorylation of the dual GAP/GEF protein, GAPV1D1. R.X. Guillen1, J. Chen1, J.R. Beckley1, K.L. Gould1; 1Cell and Developmental Biology, Vanderbilt University, Nashville, TN

B424/P1414 Unique and redundant roles of early endosomal Rab GTPTases in VEGF receptor turnover and signaling, endothelial cell migration, and sprouting angiogenesis. I. van der Bij1, C. Furumaya1, I. De Cuyper1, A. van Stalborch1, K. Nawaz2, C. Margadant1, 2Sanquin Research, Amsterdam, Netherlands

B425/P1415 Rab3: a key player in microdomain-dependent plasma membrane recycling. B.B. Diaz-Rohrer1, I. Levental1, K.R. Levental1; 1Integrative Biology and Pharmacology, University of Texas MD Anderson Cancer Center UTHealth, Houston, TX

B426/P1416 Heparan sulfate proteoglycans mediate LPL sorting into a spingomyelin-rich branch of the secretory pathway. E.L. Sundberg1, Y. Deng1, C.G. Burd1; 1Department of Cell Biology, Yale University School of Medicine, New Haven, CT

B427/P1417 Regulation of the Golgi SNARE chaperone Sly1 dissected in vivo and in a novel chemically-defined in vitro assay of ER-Golgi membrane fusion. A.J. Merz1,2, M. Duan1, R.L. Piemel1, T. Takenaka1; 1Physiology Biophysics, University of Washington, Seattle, WA, 2Biochemistry, University of Washington, Seattle, WA

B428/P1418 The tubular ER shaping protein Reticulon 4a enhances exocytosis independently of its effect on ER morphology. R. Mukherje1, Z. Zhang1, D.L. Levy1; 1Molecular Biology, University of Wyoming, Laramie, WY, 2Zoology and Physiology, University of Wyoming, Laramie, WY

B429/P1419 An in vitro reconstituted vesicle formation assay to analyze COPII-mediated vesicular transport process. Y. Huang1, H. Yin1, q. wu2, Z. Yao2, Y. Guo2; 1Division of Life Science, the Hong Kong University of Science and Technology, Hong Kong, 2Department of applied biology and chemical technology, The Hong Kong Polytechnic University, Hong Kong, Hong Kong

ER and Golgi Transport
B439/P1429 Palmitic acid induces the secretion of placental exosomes containing pro-inflammatory miRNAs. M. Acosta-Martinez1, C.R. Manuel1, S.E. Reznik2,3; 1Physiology, Biophysics, Stony Brook University, Stony Brook, NY, 2Pharmacological Sciences, St. John’s University, Queens, NY; 3Pathology and Obstetrics and Gynecology and Women’s Health, Albert Einstein College of Medicine, Bronx, NY

B440/P1430 A bright, versatile reporter to track exosome secretion. B. Sun1,2; 1Department of Pharmacy, College of Pharmacy, China Medical University, Taichung, Taiwan; 2Department of Pharmacy, China Medical University Hospital, Taichung, Taiwan

Neurodegeneration 1

B443/P1432 ALS-linked SOD1 Mutants Induce Enhanced Outgrowth, Branching, and Filopodia Formation in Adult Motor Neurons. Z. Osing1, J.K. Ayers1, R. Hildebrandt1, K. Skruber1, H. Brown1, D. Ryu2, A.R. Eukovich1, T.E. Golde3, D. Borchelt2, T.A. Read2, E.A. Vitirol1; 1Anatomy and Cell Biology, University of Florida, Gainesville, FL, 2Neuroscience, University of Florida, Gainesville, FL, 3Molecular Genetics and Microbiology, University of Florida, Gainesville, FL

B444/P1433 TFEB/Mit links impaired nuclear import to autophagolysosomal dysfunction in C9ORF72-mediated ALS/FTD. K.M. Cunningham1,2, K. Zhang1,2, H. Sung1,2, J.T. Pham1,2, M. Senturk1, J. Rothstein2,3,5, H.I. Bellen4,6,7,8, T.E. Lloyd1,2,5,1; 1Cellular and Molecular Medicine Program, Johns Hopkins University School of Medicine, Baltimore, MD, 2Department of Neurology, Johns Hopkins University School of Medicine, Baltimore, MD, 3Brain Science Institute, Johns Hopkins University School of Medicine, Baltimore, MD, 4Department of Neurodegeneration, University of the Pacific, Stockton, CA, 5Department of Experimental Neurodegeneration, University Medical Center Göttingen, Göttingen, Germany, 6Department of Biochemistry and Molecular Biology, Colorado State University, Fort Collins, CO

B450/P1439 Effects of Parkinson’s disease mutant VPS35 on autophagy. J. Ito1, R. Linhart1, A. Desens1, P. Nguyen2, B. Ho2, J. Conty3, B. Tran1, S. Le1, K. Venderova5, Th Thomas1; 1Long School of Pharmacy, University of the Pacific, Stockton, CA, 2Biopharmaceutical Sciences, Keck Graduate Institute, Claremont, CA, 3Department of Cell Biology, National Institute of Health, Disenos, Spain, 4NeoSensory, Neurodegeneration, University Medical Center Göttingen, Göttingen, Germany, 5Department of Cell Biology, National Institute of Health, Disenos, Spain

B451/P1440 Amyloid-beta and Aquaporin 4: Distribution pattern in Alzheimer’s Disease and in associated transgenic mouse models. M. Temmel1,2, J. Attems1, J. Neddens1, H. Hutter1, B. Hutter-Paier1, QPS Austria GmbH, Graz, Austria, 2Institute of Biology, Karl-Franzens University of Graz, Graz, Austria, 3Institute of Neurocence, Newcastle University, Newcastle upon Tyne, United Kingdom, 4Department of Cell Biology, Histology Embryology, Medical University of Graz, Graz, Austria

B452/P1441 Insights into the biochemistry of neurodegenerative disease using hyperspectral coherent Raman scattering microscopy. V. Schweikhard1, A. Baral2, V. Krishnamachari1, W.C. Hay1, M. Fuhrmann1, 1Leica Microsystems CMS GmbH, Mannheim, Germany, 2Neuroimmunology and Imaging Group, German Center for Neurodegenerative Diseases (DZNE), Bonn, Germany
**Neuronal Morphogenesis**

**B464/B4143** Protein kinase Trc regulates neurite outgrowth via Pavarotti (xinesin-6). R. Norkett1, M. Winding1, U. del Castillo1, W. Lu1, V.G. Gelfand1; 1Cell and Molecular Biology, Feinberg School of Medicine, Northwestern University, Chicago, IL

**B465/B4145** Overexpressed Cep170 localizes as centrosomal puncta along neurites and promotes neurite outgrowth. A. Goh1, H. Jiang1, X. Hong1, Y. Lu1, H. Hua1; 1Department of Biological Science and Technology, National Chiao Tung University, Hsinchu City, Taiwan, 1Institute of Molecular Medicine and Bioengineering, National Chiao Tung University, Hsinchu City, Taiwan, 1Institute of Bioinformatics and Systems Biology, National Chiao Tung University, Hsinchu City, Taiwan

**B466/B4145** Differential Effects of Extracellular Matrix Molecules on Neurite Outgrowth in Embryonic Chick Cerebral and Tectal Neurons. M.N. Galarid1, N. Thompson1, G. Gomez1; 1Biology, University of Scranton, Scranton, PA

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**Sunday Poster Session**

**B467/B1456** Role of autophagy-dependent secretion in axonal extension. T. Galli1, J. Wojnicki1, A. Ouslimani1, C. Fader1, M.J. Colombo1; 1Membrane Traffic in the Healthy and Diseased brain, INSERM, Institute of Psychiatry and Neuroscience, Paris, France, 1Laboratorio de Biologia Celular y Molecular, Instituto di Histologia y Embriologia, (IHEM), Universidad Nacional de Cuyo, CONICET, Mendoza, Argentina

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**B459/B1458** Regulation of filopodia during axon guidance and branching by a pair of TRIM proteins. N. Boyer1, S.L. Gupton2; 1Department of Cell Biology and Physiology, University of North Carolina at Chapel Hill, Chapel Hill, NC

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**B460/B1449** Inflammasome–induced pyroptosis facilitates ganglion cell loss in ocular hypertension injury. V.I. Shetstopalov1,2,3, A. Pronin1, W. An1, D.G. Pham1, Q. Jianzhong1, A.E. Reiser1, Z. Kozhekbaeva1, G. Reshetnikova1,2, G. Dvoriantchikova1, V.Z. Slepak1; 1Ophthalmology, University of Miami Miller School of Medicine, Miami, FL, USA, 2Miami, FL, 3Karkevich Institute for Information Transmission Problems, Moscow, Russia, 3Cell Biology, University of Miami Miller School of Medicine, Miami, FL, 4Cellular and Molecular Pharmacology, University of Miami Miller School of Medicine, Miami, FL, 5Institute of Cytology, Moscow, Russia

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**B461/B1450** Role of the SIX6 transcription factor in the pathogenesis of glaucoma. L. Rocha1, E. Bozek1, J. Morachis1, D. Skowronska-Krawczyk1; 1Ophthalmology, UC San Diego, La Jolla, CA, 2NanoCelles Biomedical, Inc., San Diego, CA

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**B462/B1451** Investigation of the APP, BACE1 and ADAM10 dynamics on the plasma membrane by single molecule tracking experiments. C. Capitini1,2, A. Bigi1, R. Cascella1, C. Cecchi1, F.S. Pavone1,2, M. Calamai2,4; 1Dipartimento di Fisica e Astronomia, Università degli Studi di Firenze, Florence, Italy, 2European Laboratory for Non-linear Spectroscopy (LENS), University of Florence, Florence, Italy, 3Dipartimento di Scienze Biomediche Sperimentali e Cliniche “Mario Serio”, Università degli Studi di Firenze, Florence, Italy, 4National Institute of Optics, National Research Council of Italy (CNR), Florence, Italy

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**B463/B1452** Drug discovery for spinocerebellar ataxia, using novel fluorescence technology targeting β-III-spectrin. A.W. Avery1, M.E. Fealey1, B. Svensson1, D.D. Thomas1, T.S. Hays1; 1Department of Cell Biology and Development, University of Minnesota, Minneapolis, MN, 2Biochemistry, Molecular Biology and Biophysics, University of Minnesota, Minneapolis, MN

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**B458/B1447** Combinatorial Expression of Grp and Neurd6 Defines Dopamine Neuron. Populations with Distinct Projection Patterns and Disease Vulnerability. D.J. Kramer1, D. Rosso1, P. Kosl01, J. Ngai1, H. Bateau1; 1Molecular and Cellular Biology, University of California, Berkeley, Berkeley, CA, 2Healthcare Policy and Research, Weill Cornell Medicine, New York, NY

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**B459/B1448** Aging as a factor for macular degeneration. L. Rocha1; 1Ophthalmology, UC San Diego, La Jolla, CA

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**B465/B1445** Overexpressed Cep170 localizes as centrosomal puncta along neurites and promotes neurite outgrowth. A. Goh1, H. Jiang1, X. Hong1, Y. Lu1, H. Hua1; 1Department of Biological Science and Technology, National Chiao Tung University, Hsinchu City, Taiwan, 1Institute of Molecular Medicine and Bioengineering, National Chiao Tung University, Hsinchu City, Taiwan, 1Institute of Bioinformatics and Systems Biology, National Chiao Tung University, Hsinchu City, Taiwan

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**B466/B1455** Differential Effects of Extracellular Matrix Molecules on Neurite Outgrowth in Embryonic Chick Cerebral and Tectal Neurons. M.N. Galarid1, N. Thompson1, G. Gomez1; 1Biology, University of Scranton, Scranton, PA

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**B467/B1456** Role of autophagy-dependent secretion in axonal extension. T. Galli1, J. Wojnicki1, A. Ouslimani1, C. Fader1, M.J. Colombo1; 1Membrane Traffic in the Healthy and Diseased brain, INSERM, Institute of Psychiatry and Neuroscience, Paris, France, 1Laboratorio de Biologia Celular y Molecular, Instituto di Histologia y Embriologia, (IHEM), Universidad Nacional de Cuyo, CONICET, Mendoza, Argentina

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**B468/B1457** Control of neurite elongation by using agarose microchamber and try to reconstruct neural network. H. Torum1, T. Kaneko1; 1Graduate School of Science and Engineering Major in Frontier Bioscience, Hosei University, Koganei-shi, Japan

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**B469/B1458** Regulation of filopodia during axon guidance and branching by a pair of TRIM proteins. N. Boyer1, S.L. Gupton2; 1Department of Cell Biology and Physiology, University of North Carolina at Chapel Hill, Chapel Hill, NC

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**B470/B1459** Nepo encodes a DNA damage response protein that associates with mitotic spindles and functions in axon guidance. R.S. O’Neill1, C.J. Fagerstrom1, N.M. Rusani2; 1BCPC, NIH, NHLBI, Bethesda, MD

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**B471/B1460** B-catenin and Myosin II differentially regulate optic axon pathfinding and growth cone filopodia in the optic tract. T.M. Eluf1, J. Ha1, M. Burke1; 1Touro University California, Vallejo, CA

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**B472/B1461** RACK1 regulates local mRNA translation at adhesion sites in developing neurons. L. Kersher1, T. Bumblebare1, P. Cassidy2; 1Department of Biological Sciences, Kent State University, Kent, OH, 2School of Biomedical Sciences, Kent State University, Kent, OH

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**B473/B1462** Analysis of Expression and Function of LMTK1 Isoforms with Different Membrane Binding Modes. R. Wei1, H. Nishino1, M. Takahashi1, A. Adachi2, R. Takahashi1, K. Komaki1, T. Tomomura2, K. Ando1, S. Hisanaga1; 1Biological Science, Tokyo Metropolitan University, Hachioji, Tokyo, Japan, 2Meikai University, Urayasu, Chiba, Japan

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**B474/B1463** Abnormal Spindle promotes proper brain size and morphology through multiple mechanisms. T. Schoborg1, S. Smith1, C.J. Fagerstrom1, N.M. Rusani1; 1Cell and Developmental Biology Center, National Institutes of Health, National Heart, Lung and Blood Institute, Bethesda, MD

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**B475/B1464** CRISPR-Cas9 Screens Reveal Genes Regulating a G0-like State in Human Neural Progenitors. H.M. Feldman1, C.L. Plaisier1, P.J. Paddison2; 1Human Biology, Fred Hutchinson Cancer Research Center, Seattle, WA, 2School of Biological and Health Systems Engineering, Arizona State University, Tempe, AZ

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**B476/B1465** Calcineurin interacting protein supports reproduction in Caenorhabditis elegans. H. Jung1, S. Durnaoglu1, Y. Hahn1, J. Ahn1, S. Lee1; 1Life Science, Hanyang University, Seoul, South Korea, 2Life Science, Choong Ang University, Seoul, South Korea
Establishing and Maintaining Organelle Structure 1

B486/P1475 MAG regulates pre-melaninizing oligodendrocyte-axon interactions and promotes axon subtype-selective myelination. E. S. Menges1, J.T. Henke1, J.R. Gronseth1, T.A. Mallon1, J.H. Hines2; Biology Department, Winona State University, Winona, MN

B487/P1476 Chromatin modifying and remodeling mutants exhibit altered BMP Signaling at the Drosophila neuromuscular junction synapse. J.A. Preston1, K.N. Lane1, F.L. Liebl2; Department of Biological Sciences, Southern Illinois University Edwardsville, Edwardsville, IL

B488/P1477 Neural activity regulates oligodendrocyte sampling of axons prior to myelin sheath formation. T.A. Mallon1, J.R. Gronseth1, J.T. Henke1, E.S. Menges1, J.H. Hines1; Biology Department, Winona State University, Winona, MN

B489/P1478 Annotation and characterization of the long noncoding RNAs in central nervous system. X. Wang1, M. Gong1, Y. Jin1, X. Shi1, B. Zhang1, X. Liang1; "School of Life Sciences, University of Science and Technology of China., Chinese Academy of Sciences Key Laboratory of Brain Function and Disease, Hefei, China, 2Hefei National Laboratory for Physical Sciences at the Microscale, Hefei, China

B490/P1479 The HPA Cell Atlas: Dissecting the spatiotemporal subcellular distribution of the human proteome. P.J. Thu1, L. Åkeson1, D. Mahdessian1, U. Axelson1, A. Bäckström1, M. Hjelmare1, C. Gnann1, A. Martinez Casals1, R. Schutten1, C. Stadler1, D.P. Sullivan1, C. Winsnes2, M. Uhlen1, E. Lundberg1; "Cellular and clinical proteomics, KTH Royal Institute of Technology, Stockholm, Sweden

B491/P1480 Multilocalizing Human Proteins. P.J. Thu1, L. Åkeson1, U. Axelson1, A. Bäckström1, F. Danielsson1, C. Gnann1, M. Hjelmare1, R. Schutten1, D. Mahdessian1, J. Fall1, C. Stadler1, D.P. Sullivan1, C.F. Winsnes2, G. Galea1, R. Pepperkok1, M. Uhlen1, E. Lundberg1; "Dept. of Protein Science, Science for Life Laboratory, KTH - Royal Institute of Technology, Stockholm, Sweden, 2Cell Biology and Biophysics Unit, European Molecular Biology Laboratory, Heidelberg, Germany

B493/P1481 Using silent mutations to design a chemical probe for the microtubule-severing AAA+ protein spastin. T. Cupido1, R. Pisa1, M.E. Kelley1, T.M. Kapoor1; "Laboratory of chemistry and cell biology, the Rockefeller University, New York, NY

B494/P1482 Efficient homology-directed genome editing in Drosophila cells using CRISP/R/ Cas9. B. Xia2, O. Kanca1, G. Amador1, J. Zrin1, S. Mohr1, H.J. Bellen1, N. Perrimon1; 1Department of Genetics, Harvard Medical School, Boston, MA, 2Baylor College of Medicine, Houston, TX, 3Drosophila RNAi Screening Center, Harvard Medical School, Boston, MA

B495/P1483 Proximity-dependent biotinylation enables probing of sarcomere structure and development in human induced pluripotent stem cell-derived cardiomyocytes. A.M. Pettinato1, K. Thakar1, F.A. Ladha1, J.T. Hinson1,2; 1The Jackson Laboratory for Genomic Medicine, Farmington, CT, 2University of Connecticut School of Medicine, Farmington, CT

B496/P1484 The Balbiani Body and how it disassembles. C. Martinez-Guillamon1, E. Bokel2,3; 2Cell and Developmental Biology, Centre for Genomic Regulation (CRG), Barcelona, Spain, 3Universitat Pompeu Fabra (UPF), Barcelona, Spain

B497/P1485 The significance of endocytosis during secretion. K. Kamakles1,2, E.D. Schejter1, B. Shilo1; O. Avinoam2; 1Department of Molecular Genetics, Weizmann Institute of Sciences, Rehovot, Israel, 2Department of Biomedical Sciences, Weizmann Institute of Sciences, Rehovot, Israel

B498/P1486 Anti-dsDNA Antibodies from Patients with Systemic Lupus Erythematosus Induce Functional and Structural Changes in Platelets. I.A. Andrianova1, A.A. Ponomareva3, G. Le Minh1, A.G. Daminova1, T.A. Nevzorova3, L. Rauova4,5, R.I. Litvinov6, J.W. Weisel7; 1Kazan Federal University, Kazan, Russia, 2The Children's Hospital of Philadelphia, Philadelphia, PA, 3University of Pennsylvania Perelman School of Medicine, Philadelphia, PA
Mitochondria, Chloroplasts and Peroxisomes 1

BS11/P1499 Global genetic buffering mechanisms in mitochondrial dysfunction induced by short OPA1. A. Almazan1, S. Chen1, S. Jui1, Q. Zhong1; 1Department of Biological Sciences, Wright State University, Beavercreek, OH

BS12/P1500 Local GTP fueling via nucleoside-diphosphate kinase-like protein DYNAMO1 drives division of peroxisome and mitochondrion. Y. Fujiki1, Y. Imoto2, Y. Abe1; 1Department of Biochemistry, Graduate School of Medicine, University of Tokyo, Japan

BS13/P1501 Disease associated variant of Mitofusins dysregulates the coupling of mitochondrial outer membrane tethering and fusion. E.A. Engelhart1; S. Hoppins1; 1Biochemistry, University of Washington, Seattle, WA

BS14/P1502 MCL-1 non-apoptotic function modulates mitochondrial dynamics in human induced pluripotent stem cell-derived cardiomyocytes. M. Rassmussen1, N. Taneja1, L. Wang2, L. Shi2, A. Neininger1, K. Beckermann1,4, J. Rathmell1,2, B. Knollmann1, D. Burnette1, V. Gama1,6; 1Cell and Developmental Biology, Vanderbilt University, Nashville, TN; 2Divisions of Cardiovascular Medicine and Clinical Pharmacology, Oates Institute for Experimental Therapeutics, Vanderbilt University School of Medicine, Nashville, TN; 3Department of Medicine, Division of Hematology and Oncology, Vanderbilt University Medical Center, Nashville, TN; 4Department of Cancer Biology, Vanderbilt University, Nashville, TN; 5Vanderbilt Center for Stem Cell Biology, Vanderbilt University Medical Center, Nashville, TN

BS15/P1503 Localization and Partners of Polycystin 1 at MAMs and Mitochondria. V. Padovan1; V. Rajendran1, M.J. Claplan1; 1Cellular and Molecular Physiology, Yale University, School of Medicine, New Haven, CT

BS16/P1504 ER-Mitochondria Contacts are Required for Formation of Mitochondria-Derived Compartments. A.M. Litwiller1, M. Schuler1, J.M. Shaw2, A.L. Hughes1; 1Biochemistry, University of Utah, Salt Lake City, UT

BS17/P1505 Mitochondria-Derived Compartments Promote Nutrient-Dependent Remodeling of the Mitochondrial Proteome. M. Schuler1, A.M. Litwiller1, T.J. Campbell1, T. Tedesci1, J.M. Shaw2, A.L. Hughes1; 1Biochemistry, University of Utah, Salt Lake City, UT

BS18/P1506 Mitochondrial CoQ biosynthetic proteins cooperatively assemble in a substrate-dependent manner into domains spatially linked to ER-mitochondria contact sites. K. Subramanian1; A. Jochem1, S.C. Raghavan1; 1Department of Molecular Genetics and Cell Biology, University of Chicago, Chicago, IL

BS19/P1507 Mitochondrial DNA is transported and partitioned via mitochondrial dynamic tubulation at the ER-mitochondria contact sites. J. Qin1, Y. Guo1, Y. Chen1, Q. Su1, H. Hao1, S. Zhao1, L. Yu1, D. Li1, Y. Sun1; 1School of Life Sciences, Peking University, Beijing, China; 2Institute of Physics Chinese Academy of Sciences, Beijing, China; 3School of Life Sciences, Tsinghua University, Beijing, China

BS20/P1508 Understanding the mechanism of genomic stability in mitochondria: Role of double-strand break repair. S. Dahal1, S.K. Tadi1, R. Sebastian1, S.C. Raghavan1; 1Department of Biochemistry, Indian Institute of Science, Bangalore, India

BS21/P1509 Nutrient-dependent mitochondrial hyperfusion requires the modified outer membrane carrier MTCO2. K. Labbé1, E.A. Engelhart2, Z. Minic2, J. Cazet1, C. Juliano1, M. Babu2, S. Hoppins1, J. Nunnari1; 1Department of Molecular and Cellular Biology, University of California Davis, Davis, CA; 2Department of Biochemistry, University of Washington, Seattle, WA; 3Department of Biochemistry, University of Regina, Regina, SK

BS22/P1510 PINK1/Parkin Influence Cell Cycle by Sequestering TBK1 to Damaged Mitochondria Inhibiting Mitosis. D.P. Sider1, S.A. Sarraf1, N. Giagtzoglou1, M. Kankel1, A. Sent1, C. Huang2, S.C. Nussenzweig3, S.H. Worley4, S. Artavans-Takonas5, R.J. Youle1, A.M. Pickrell1; 1Surgical Neurology Branch, National Institutes of Health, Bethesda, MD; 2Pathway Discovery, Biogen Inc., Cambridge, MA; 3Neuroscience, Virginia Polytechnic Institute and State University, Blacksburg, VA; 4Department of Cell Biology, Harvard Medical School, Boston, MA

BS23/P1511 The relative effect of melain content and type on the UVA-induced signaling in human epidermal melanocytes. S. Hafez1, E. Oancea1; 1Molecular physics and pharmacology, Brown University, Providence, RI

BS24/P1512 Oxidative insults disrupt OPA1-mediated mitochondrial dynamics in cultured mammalian cells. I. Garcia1, W. Innis-Whitehouse1, A. Lopez2, R. Glikerson3, M.E. Keniry1; 1Biochemistry, University of Texas Rio Grande Valley, Edinburg, TX; 2Biomedical Sciences, The University of Texas Rio Grande Valley, Edinburg, TX; 3Clinical Laboratory Sciences, The University of Texas Rio Grande Valley, Edinburg, TX

BS25/P1513 Aberrant Drp1-mediated mitochondrial division presents in humans with variable outcomes. B.N. Whitley1, C. Lam2, H. Cui1, K. Haude1, R. Bai1, L. Escobar4, A. Hamilton1, L. Brady1, M. Tarnopolsky1,4, L. Dengle1, J. Picker2, S. Lincoln3, L.L. Lacker1, I. Glass1, S. Hoppins1; 1Biochemistry, University of Washington, Seattle, WA; 2Division of Genetic Medicine, University of Washington, Seattle, WA; 3Gene Dx, Gaithersburg, MD; 4Medical Genetics and Neurodevelopment Center, Peyton Manning Children’s Hospital at St. Vincent, Indianapolis, IN; 5Pediatrics, McMaster University, Hamilton, ON; 6Medicine, McMaster University, Hamilton, ON; 7Pediatrics, University of Texas Southwestern Medical Center, Dallas, TX; 8Boston Children’s Hospital, Boston, MA; 9Molecular Biosciences, Northwestern University, Evanston, IL

BS26/P1514 Release of iron from endolysosomes is sufficient to cause reactive oxygen species production and mitochondrial dysfunction. J.D. Geiger1; 1Biomedical Sciences, University of North Dakota, Grand Forks, ND

BS27/P1515 A Mitofusin variant that impacts mitochondrial fusion and transport. S.R. Sloa1, S. Hoppins1; 1Biochemistry, University of Washington, Seattle, WA

BS28/P1516 Physiologic Oligomerization and Pathogenesis. Aggregation of CHCHD11 and CHCHD10. B. Wu, X. Huang, D.P. Narendra2; 1National Institute of Neurological Disorders and Stroke, National Institutes of Health, Bethesda, MD
Receptors, Transporters, and Channels

BS34/P1522 a7 nicotinic acetylcholine receptor (nAChR)/G protein interactions and endocytic mechanisms modulate nicotine-induced upregulation of a7 nAChRs in Xenopus oocytes. J. Panchal1, J. Farley1, K. DeBoeuf1, J.B. Anderson1, I. Mcfarridge1, M. Islam1; 1Neuroscience, Indiana University, Bloomington, IN

BS35/P1523 Mechanisms controlling inhibition of Store-Operated Ca2+ influx during mitosis. F. Yu1, S. Hubrack2, K. Machaca1; 1Physiology & Biophysics, Weill Cornell Medicine Qatar, Doha, Qatar

BS36/P1524 Calcium Dysregulation in a Neurodegenerative Disease of Impaired Cholesterol Homeostasis. S.A. Tiscione1, O. Vivas1, S. Cologna1, D.S. Ory1, E.J. Dickson2; 1Physiology and Membrane Biology, University of California Davis, Davis, CA, 2Chemistry, University of Illinois, Chicago, IL; 1Diabetic Cardiovascular Disease Center, Washington University School of Medicine, St. Louis, MO

BS37/P1525 A bicistronic system for stable co-expression of TREM2 and DAP12. M. Ibach1, K. Giebou1, S. Theil1, J. Wailer1; 1Department of Neurology, University of Bonn, Bonn, Germany

BS38/P1526 To interact, or Not interact, that is the Question: Potential Regulation of Glur2 Q/R isoforms by L6V Proteins. A. Lauriello1, Q. Johnson1, R. Sung1; 1History, Carleton College, Northfield, MN, 2Chemistry, Carleton College, Northfield, MN, 3Biology, Carleton College, Northfield, MN

BS39/P1527 Role of the Na+/H+ Exchanger in Modulating Resistance to Apoptosis in Pulmonary Arterial Smooth Muscle Cells from Rats with Pulmonary Hypertension. M.C. Munson1, X. Yun2, J.C. Huetsch2, L.A. Shimoda3; 1Pulmonary and Critical Care Medicine, Johns Hopkins School of Medicine, Baltimore, MD

BS40/P1528 Is the Amino-Terminal Domain in all you really need? Investigating the necessity and sufficiency of the amino-terminal domain for interaction with Lys proteins. Q. McVeigh1, R. Sung1; 1Biology, Carleton College, Northfield, MN

BS41/P1529 Activation of melanin receptors by melanin-related compounds and their secretion from the rat pineal gland. B. Lee1, D. Koh1, H. De la Iglesia1, C. Hague2, B. Hille1; 1Physiology and Biophysics, University of Washington, Seattle, WA, 2Biology, University of Washington, Seattle, WA, 3Pharmacology, University of Washington, Seattle, WA

BS42/P1530 Live imaging in liver cells to study virus-Ca2+ interactions and ER-mitochondrial Ca2+ dynamics. Y. Lin1, P. Tsai1, Y. Feng1, F. Tsai2; 1Department of Pharmacology, College of Medicine, National Taiwan University, Taipei, Taiwan, 2Department of Internal Medicine, National Taiwan University Hospital, Taipei, Taiwan

BS43/P1531 Astrocytic α and β/β Adrenergic Receptors Regulate the Surface Expression of Monocarboxylate Transporter 1 in a Human Glioblastoma Cell Line. H.A. Arain1, Q.S. Hooker1, V.L. Ramadini1, C. Kong1, M.R. Dones1; 1Department of Biology, Hofstra University, Hempstead, NY

BS44/P1532 The K-dependent Na-Ca exchanger NCKX5 has unique cellular localization that is determined by its cytoplasmic loop. T.P. Rogasevskaia1,2, R.T. Szerencsei1, A.H. Jaillo1, F. Visser1, P.P. Snchtkamp2; 1Biology, Mount Royal University, Calgary, AB, 2Physiology and Pharmacology, Cumming School of Medicine, University of Calgary, Calgary, AB

BS45/P1533 Mitochondria, Calcium and Metabolism. M. MacEwen1, Y. Sancak2; 1Pharmacology, University of Washington, Seattle, WA

BS46/P1534 In atrial myocytes, axial tubule junction activates Ca2+ release across species. S. Brandenburg1, J. Pawlowski1,2,2, T. Koh1,2, M. Dura1, M. Scardigli1, L. Sacconi1, M. Gotthardt1, C.W. Ward2, W.J. Lederer1, E.S. Lehnart1,2; 1Heart Research Center Göttingen, University Medical Center Göttingen, Göttingen, Germany, 2Department of Cardiology Pneumology, University Medical Center Göttingen, Göttingen, Germany, 3Department of Catholic Pneumology, University Medical Center Göttingen, Göttingen, Germany, 4DKZH (German Centre for Cardiovascular Research) partner site Göttingen, Göttingen, Germany, 5European Laboratory for Non-Linear Spectroscopy and, National Institute of Optics (INO-CNR), Sesto Fiorentino, Italy, 6Max Delbrück Center for Molecular Medicine, Berlin, Germany, 7BioMET, The Center for Biomedical Engineering and Technology, University of Maryland School of Medicine, Baltimore, MD

BS47/P1535 LPS decreases the expression of metabolic transporters in mouse monocytes. J.D. Ochirotier1, R. Al-Khatib1; 1Biology, University of North Florida, Jacksonville, FL

BS48/P1536 A new mechanistic insight for botulinum neurotoxins-target neuron cell recognition. L. Yin1, M. Dong1; 1Department of Urology, Boston Children’s Hospital, Harvard Medical School, Boston, MA, 2Department of Microbiology and Immunobiology and Department of Surgery, Harvard Medical School, Boston, MA

BS49/P1537 STARD3/MLN64 is not involved in mitochondrial cholesterol import for steroidogenesis. M.C. Kern1, P.P. Koganti1, A.H. Zhao1, V. Selvaraj1; 1Animal Science, Cornell University, Ithaca, NY

BS50/P1538 The intracellular Ca2+ channel TRPV13 is a novel Pi3P effector that regulates early autophagosome biogenesis. S. Kim1, K. Park1, H. Kim1; 1Department of Physiology, Sungkyunkwan University School of Medicine, Suwon, South Korea, 2Wide River Institute of Immunology, Seoul National University College of Medicine, Gangwon-do, South Korea

BS51/P1539 Organic/Inorganic hybrid membrane mimics the structure and function of bacterial outer membrane protein. J. Lee1, K. Choi1; 2RD, NextEM Co., Ltd, Incheon, South Korea

BS52/P1540 Effects of polybrominated diphenyl ethers (PBDEs) on the developing sea urchin immune system. K.T. Nesbit1, A. Hamdoun1; 1Scripps Institution of Oceanography, University of California San Diego, La Jolla, CA

Signaling Receptors (RTKs and GPCRs)

BS54/P1541 Microenvironment-controlled cytoskeleton dynamics and cell motility determine the invasive potential of Medulloblastoma cells. K. Sanhana Kumar1, D. Tripolitsioti1, A. Neve1, M.A. Grotzer1, M. Baumgartner1; 1Oncology, University Children’s Hospital Zürich, Zürich, Switzerland

BS55/P1542 The tumor suppressor PAG1 controls the localization of active SRC family kinases to late endosomes and determines cell fate decisions downstream of receptor tyrosine kinase activation. L.E. Foltz1, J. Palacios-Moreno1, M. Mayfield1, S. Kinch1, J. Syrenne1, M.L. Grimes1; 1Division of Biological Sciences, University of Montana, Missoula, MT

BS56/P1543 FGFR signaling regulated orbital tissue fibrosis and adiogenesis in thyroid eye disease. T. Lu1, E. Yeni1, S. Shih2,3, C. Shih4, Y. Wei1, F. Tsai1; 1Department of Pharmacology, National Taiwan University College of Medicine, Taipei, Taiwan, 2Department of Internal Medicine, National Taiwan University College of Medicine, Taipei, Taiwan, 3Department of Internal Medicine, National Taiwan University Hospital, Taipei, Taiwan, 4Center of Anti-Aging and Health Consultation, National Taiwan University Hospital, Taipei, Taiwan, 5Department of Ophthalmology, Zhongxing Branch, Taipei City Hospital, Taipei, Taiwan, 6Department of Ophthalmology, National Taiwan University Hospital, Taipei, Taiwan
**B557/P1544** The inositol phosphatase SHIP2 enables ERK activation downstream of FGF receptors by recruiting Src kinases to the receptor complex. B. Fafieki\(^1,2\), L. Balek\(^1\), M. Kunova Boskova\(^2\), M. Varecha\(^1\), A. Nita\(^1\), T. Gregori\(^1\), I. Gudernova\(^1\), J. Krenova\(^1\), S. Gboshi\(^1\), M. Piskacek\(^1\), L. Jonatova\(^1\), N.H. Cernohorsky\(^1\), J.T. Zieba\(^1\), M. Kostas\(^2\), E.M. Haugsten\(^3\), J. Wesche\(^1\), E. Cereux\(^1\), L. Trantriek\(^1\), D. Krakow\(^1,2\), P. Krejci\(^1,2,3\); \(1^{-}\)Department of Pathological Physiology, Masaryk University, Faculty of Medicine, Brno, Czech Republic; \(2^{-}\)Central European Institute of Technology, Masaryk University, Brno, Czech Republic; \(3^{-}\)Institute IRIBHM, Université Libre de Bruxelles, Bruxelles, Belgium.

**B562/P1549** Dimerization of the Trk receptors in the plasma membrane: effects of their cognate ligands. F. Ahmed\(^1\), K. Hristova\(^1\); \(1^{-}\)Materiellas Science/Bioengineering, Johns Hopkins University, Baltimore, MD

**B563/P1550** Epha2 receptor signaling responses depend on the activating ligand. M. Gehring\(^1\), B.C. Lechtenberg\(^1\), M. Gomez Soiler\(^2\), D.R. Singh\(^3\), E. Zapata-Mercado\(^4\), S. Riedl\(^1\), K. Hristova\(^1\), E.B. Pasquale\(^1\); \(1^{-}\)Cancer Center, SBF Medical Discovery Institute, La Jolla, CA; \(2^{-}\)Department of Materials Science and Engineering, Johns Hopkins University, Baltimore, MD

**B564/P1551** Endothelial barrier stabilization signaling pathways induced by G protein-coupled receptors. O. Molinar-Inglis\(^1\), B. Chen\(^1\), N. Gрисье\(^1\), H. Lim\(^1\), M. Čиснорска \(^1\), L.J. Coronel\(^1\), J. Trejo\(^1\); \(1^{-}\)Pharmacology, University of California, San Diego, La Jolla, CA

**B565/P1552** Thrombin-induced Ca\(^{2+}\) increase and subsequent calpain activation promotes Protease-Activated Receptor 1 (PAR1) internalization. A. Alvarez-Arce\(^1\), I. Lee-Rivera\(^1\), E.C. Lopez-Hernandez\(^1\), A. Hernandez Cruz\(^1\), A. Lopez-Colomé\(^1\); \(1^{-}\)Molecular Neuropathology, Universidad Nacional Autonoma de Mexico, Mexico, Mexico; \(2^{-}\)Cognitive Neuroscience, Universidad Nacional Autonoma de Mexico, Mexico, Mexico

**B566/P1553** A Tyrosine Switch on NEDD4-2 E3 Ligase Transmits GPCR Inflammatory Signaling. N.J. Grimsey\(^1,2\), R.V. Narala\(^2\), C.C. Radal\(^1\), S. Metha\(^1\), B.S. Stephens\(^1\), I. Kufareva\(^1\), J.J. Lapic\(^1\), D. Gonzalez\(^1\), T.M. Handel\(^1\), I. Zhang\(^1\), J. Trejo\(^1\); \(1^{-}\)Pharmacology, University of California San Diego, La Jolla, CA; \(2^{-}\)Pharmaceutical and Biomedical Sciences, University of Georgia, Athens, Athens, GA

**B567/P1554** Examining the FP receptor triggered CREB activation in cell-based assays. W.C. Ho\(^1\), C. Patel\(^1\), B. Saepoo\(^1\), I. Morano\(^1\); \(1^{-}\)Drug Discovery, Cayman Chemical, Ann Arbor, MI

**B568/P1555** Phospholipase C\(\beta\)3 Regulates Stress Granule Formation. A. Qifti\(^1\), L. Chang\(^1\); \(1^{-}\)Chemistry & Biochemistry, Worcester Polytechnic Institute, Worcester, MA

**B569/P1556** cAMP signaling is involved in the regulation of radiation-induced double stranded breaks repair in lung cancer cells. S. Noh\(^1\), J. Yuhnn\(^1\); \(1^{-}\)Department of Biochemistry, Seoul National University College of Medicine, Seoul, South Korea

**B570/P1557** Transient hetero-dimerization of opioid receptors (GPCRs) revealed by single-molecule tracking. P. Zhou\(^1\), R.S. Kasaie\(^1\), K.M. Hiroswa\(^1\), T.K. Fujitawa\(^1\), T.A. Tsunoyama\(^1\), A. Yudin\(^1\), A. Kusumi\(^1,2\); \(1^{-}\)Membrane Cooperativity Unit, Okinawa institute of Science and Technology Graduate University (OIST), Onna-son, Japan; \(2^{-}\)Institute for Frontier Life and Medical Sciences, Kyoto University, Kyoto, Japan; \(3^{-}\)Center for Highly Advanced Integration of Nano and Life Sciences (G-CHAIN), Gifu University, Gifu, Japan; \(4^{-}\)Institute for Integrated Cell-Material Sciences (WPI-IceMS), Kyoto University, Kyoto, Japan

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**Sunday Poster Session**

**B751/P1558** Watching Biased Agonism at GPCRs in real time. P.H. Tewson\(^1\), A.M. Quinn\(^1\), S.A. Martinka\(^1\), K.M. Harlen\(^1\), T.E. Hughes\(^1\); \(1^{-}\)Montana Molecular, Bozeman, MT; \(2^{-}\)Cell Biology and Neuroscience, Montana State University, Bozeman, MT

**B752/P1559** BLT 2 mediates the proliferation in LOVO and SW480 cells. J. Park\(^1\), J. Kim\(^1\); \(1^{-}\)department of biotechnology, college of life sciences and biotechnology, Korea University, Seoul, South Korea

**B753/P1560** Leukotriene B4 Receptor 196 Residue Leads to an Enhanced Ligand Sensitivity. J. Jang\(^1\), J. Kim\(^1\); \(1^{-}\)Department of Biotechnology College of Life Sciences and Biotechnology, Korea University, Seoul, South Korea

**B754/P1561** Different phosphorylation patterns regulate a1D-adrenoceptor signaling and desensitization. M.A. Alfonso Mendez\(^1,2\), G. Carmona-Rosas\(^1\), D.A. Hernandez-Espinosa\(^1\), M.T. Romero-Avila\(^1\), A. Garcia-Sainz\(^2\); \(1^{-}\)NHLBI, NIH, Bethesda, MD; \(2^{-}\)Cell Biology and Development, Instituto de Fisiologia Celular, National University of Mexico, Mexico City, Mexico

**B755/P1562** Single-molecule study of the dynamic organization of Vascular Endothelial Growth Factor Receptor 2 (VEGFR-2) on the endothelial cell surface. B. De Rocha-Azevedo\(^1\), A. Vega\(^1\), A. Dasgupta\(^2\), S. Lee\(^1\), T. Kim\(^1\), M. Kittsoppikul\(^2\), L. de Oliveira\(^3\), K. Jaqaman\(^1,4\); \(1^{-}\)Biophysics, UT Southwestern Medical Center, Dallas, TX, Korea University, Seoul, South Korea; \(2^{-}\)Cell and Molecular Biology, Northwestern University Feinberg School of Medicine, Chicago, IL; \(3^{-}\)Bioinformatics, University of Texas Southwestern Medical Center, Dallas, TX

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**Kinases and Phosphatases**

**B756/P1563** Cell size-dependent control of Wee1 by signaling at cortical clusters. C.A. Allard\(^1\), H.E. Opalko\(^1\), I.B. Moseley\(^1\); \(1^{-}\)Biochemistry and Cell Biology, Dartmouth College, Hanover, NH

**B757/P1564** A RSky Adventure in Myosin Phosphatase. M.C. Mendoza\(^1\), S.C. Samson\(^1\), A. Elliott\(^1\), K.R. Carney\(^1\); \(1^{-}\)Oncological Sciences, University of Utah, Salt Lake City, UT

**B758/P1565** Membrane regulation of sperm acrosome reaction in Aftinkeys: Functional association of src family kinases (SFK) with membrane rafts. C. Priyadarshana\(^1\), R. Setiawan\(^1\), A. Tajima\(^1\), N. Ishikawa\(^1\), A. Asano\(^1\); \(1^{-}\)Graduate School of Life and Environmental Sciences, University of Tsukuba, Tsukuba, Ibaraki, Japan; \(2^{-}\)Faculty of Life and Environmental Sciences, University of Tsukuba, Tsukuba, Ibaraki, Japan

**B759/P1566** Regulation of non-canonical GBP1 splicing by CNP and RtcA during ER stress. I. Unlu\(^1\), Y. Lu\(^1\), X. Wang\(^1\); \(1^{-}\)Molecular Biosciences, Northwestern University, Evanston, IL
B580/P1567 Localization dynamics of endogenous fluorescently labeled Raf1 in EGFR-stimulated cells. S.V. Survé1, P. Myers2, S.C. Watkins1, M. Lazzara2, A. Sorkin1; 1Cell Biology, University of Pittsburgh, Pittsburgh, PA, 2Department of Chemical Engineering, University of Virginia, Charlottesville, VA, 3Department of Biomedical Engineering, University of Virginia, Charlottesville, VA

B581/P1568 Understanding the role of calcineurin phosphatase in mammalian cytokinesis. E. Tsukitsidou1, M.S. Cytet1; 1Department of Biology, Stanford University, Stanford, CA

B582/P1569 Role of PI3K in mediating BMP7 chemotrophic activity. A. Rodrigues1, N. Habeeb1, J.C. Perron1; 1Pharmaceutical Sciences, St.John's University, Queens, NY

B583/P1570 PtdIns(3,4)P2-dependent mTORC2 recruitment and AKT activation in the early endosome of cells activated with growth factors. S. Kim1, D. Kang1; 1Life Science, Ewha Womans University, Seoul, South Korea

B584/P1571 Adverse effects of genistein on milk production ability by affecting EGFR signaling in mammary epithelial cells. Y. Tsuiga1, A. Kumi1, N. Suzuki1, T. Suzuki1, T. Nishimura1, K. Kobayashi1; 1Hokkaido University, Laboratory of Cell and Tissue Biology, Research Faculty of Agriculture, Sapporo, Japan

B585/P1572 The inhibition of Cellular Chloride Channel 1 enhances Ca2+ and reactive oxygen species signaling in A549 human lung cancer cells. J. Lee1, J. Lee1, M. Hahn1, J. Kang1, H. Cho2,3; 1Department of Molecular Cell Biology, Sungkyunkwan University, Suwon, South Korea, 2Single Cell Network Research Center, Sungkyunkwan University, Suwon, South Korea, 3Department of Physiology, Sungkyunkwan University, Suwon, South Korea, 4Sungkyunkwan University, Suwon, South Korea, 5Sungkyunkwan Biomedical Research Institute, Samsung Medical Center, Seoul, South Korea

B586/P1573 Testing the function of a VIP family inositol polyphosphate kinase in Chlamydomonas metabolic signaling through the TOR kinase pathway. Z. Perrine1, Y. Liu1, J.G. Umen1; 1Donald Danforth Plant Science Center, St. Louis, MO

B587/P1574 Induction of TRAF2-mediated DUSP14/MKP6 ubiquitination by PRMT5-mediated arginine methylation. T. Tan1; 1Immunology Research Centre, National Health Research Institutes, Zhunan, Taiwan

B588/P1575 WNKS are osmosensors. M.Z. Durba2, K. Sekulski1, A. Radha1, J. Humphreya1, H. He1, E.J. Goldsmith1; 2Biophysics, UT Southwestern Medical Center, Dallas, TX

B589/P1576 A large scale high throughput screen 1 identifies chemical 2 inhibitors of phosphatidylinositol 4-kinase type II alpha. N. Sengupta1, M. Jovic1, E. Barnaeva1, D. Kim1, X. Hu1, N. Southall1, R. Nencka1, E. Boura1, A. Baumlov1, M. Dejmelek1, D. Chalupska1, I. Mejdrova1, M. Ferrer1, J. Marugan1, T. Balla2; 1Section on Molecular Signal Transduction, Program for Developmental Neuroscience, Eunice Kennedy Shriver National Institute of Child Health and Human Development, Bethesda, MD, 2Division of Preclinical Innovation, National Center for Advancing Translational Sciences, Rockville, MD, 3Institute of Organic Chemistry and Biochemistry, Academy of Sciences of the Czech Republic, Flemingovo nám, Prague, Czech Republic

B590/P1577 Identification of novel binding sites for heparin in RPTPs: implications for proteoglycan signaling. Y. Katagiri1, A.A. Morgan1, P. Yu1, N.J. Bangayan1, R. Junka1, H.M. Geller1; 1Cell Biology and Physiology Center, National Heart, Lung, and Blood Institute, Bethesda, MD

B591/P1578 Plasma membrane repair responses to bacterial pore-forming toxins may be dependent on MAPK pathway proteins MK1/2 and MLK3. S. Ray1, P.A. Keyel1; 1Biology, Texas Tech University, Lubbock, TX

B592/P1579 Phosphorylation of protein arginine methyltransferase 1 promotes RUNX1 methylation during neuronal differentiation. B. Han1, S. Kim1, S. Lee1, K. Bae1; 1Metabolic Regulation Research Center, KIBBB, Daejeon, South Korea

B593/P1580 TBK1 Suppresses RIPK1-Driven Apoptosis and Inflammation during Development and in Aging. D. Xu1, T. Jin1, J. Yuan1; 1Department of Cell Biology, Harvard Medical School, Boston, MA, 2Interdisciplinary Research Center on Biology and Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, Shanghai, China

B594/P1581 Evidence for the involvement of filopodia in Wnt signaling in cultured cell lines and chick embryos. L.M. Galli1, F.R. Santana1, E. Elizararas1, S.M. Goodfellow1, C. Apollon2, L.A. Szabo1, K. Ngo1, L.W. Burrell1; 1Biology, San Francisco State University, San Francisco, CA, 2Biology, Holy Names University, Oakland, CA, 3Driver Genomics LLC, San Francisco, CA

B595/P1582 Contraction-dependent modification of extracellular vesicles derived from C2C12 myotubes. C. Miyashita1, T. Tanabe1, Y. Ishiiuchi1, T. Ukai1, T. Nedaichi1; 1Life sciences, Toyo University, Oura-gun Itakura-machi, Toyo University, Oura-gun Itakura-machi, Japan, 2Bio-Nano Electronics Research Center, Toyo University, Kawagoe Kuirai, Japan

B596/P1583 Polarized cholangiocytes release distinct populations of apical and basolateral extracellular vesicles. B.A. Davies1, J.A. Taylor1, A. Savard1, M. Trungi1, C. Campbell1, D. Gibbings1; 1Cellular and Molecular Medicine, University of Ottawa, Ottawa, ON, 2Centre for Neuromuscular Disease, University of Ottawa, Ottawa, ON

B597/P1584 Macrophage Reprogramming by Negatively-Charged Membrane Phospholipids Controls Infection. D.M. Cauvi1, A. Radha2, P.R. Dores-Silva2, A. De Maio1; 1Cell Biology and Molecular Biology, Mayo Clinic, Rochester, MN, 2Division of Gastroenterology, Mayo Clinic, Rochester, MN, 3Chemistry Department, Luther College, Decorah, IA

B598/P1585 Optimizing immunohistochemical procedures for identifying FoxL1+ telocytes in the intestinal mesenchyme. C. Zhang1, A. Swisa1, H. Kolev2, K.H. Kaestner2; 1Department of Biology, Millsaps College, Jackson, MS, 2Department of Genetics and Center for Molecular Studies in Digestive and Liver Diseases, Perezian School of Medicine, University of Pennsylvania, Philadelphia, PA

B599/P1586 The cardioprotective effects of mesenchymal stem cell-derived exosomes after acute myocardial infarction. N. Oliveria1, C. Zogbi1, E. Neri1, M. Bozzo1, E. Antonio1, P. Tuccci1, J. Krieger1; 1UCM, University of São Paulo, São Paulo, Brazil, 2UNIFESP, São Paulo, Brazil

B600/P1587 Exosomes-derived immunomodulation of macrophages recapitulates pro-regenerative effects on cardiac cells. C. Zogbi1, N. Oliveria1, J. Krieger1; 1University of Sao Paulo, Sao Paulo, Brazil

B601/P1588 Proteomic characterization of extracellular vesicles from mouse hepatic stellate cells during fibrogenic activation. R. Chen1, X. Li1, S. Kemper1, D.R. Brigitte2; 1Center for Clinical and Translational Research, Nationwide Children's Hospital, Columbus, OH, 2Department of Surgery, The Ohio State University, Columbus, OH

B602/P1589 Extracellular Vesicles Release from Fat-Laden Hepatocytes activates Kupffer Cells through MR activation. D. Cabrera1, J. Leon1, M. Freire1, A. Hernandez1, N. Solis1, J.P. Arabi1, F. Barrera1, H. Moshage1, M. Arrese1; 1Department of Gastroenterologia, Pontificia Universidad Católica de Chile, Santiago, Chile, 2Department of Ciencias Químicas y Biológicas, Universidad Bernardo O Higgins, Santiago, Chile, 3Department of Gastroenterology and Hepatology, University Medical Center Groningen, Groningen, Netherlands

B603/P1590 Absolute quantification demonstrates that exosomes can be highly efficient delivery vehicles for RNA in vitro and in vivo. R. Reshke1,2, J.A. Taylor1,2, A. Savard1,2, M. Trungi1, C. Campbell1,2, D. Gibbings1; 1Cellular and Molecular Medicine, University of Ottawa, Ottawa, ON, 2Centre for Neuromuscular Disease, University of Ottawa, Ottawa, ON

Cytoskeleton-Membrane Interactions

B605/P1591 Coordinated activities of Talin and vinculin target actin networks to membranes in vitro. C. Kelley1, D. Dedden1, S. Schumacher1, T. Litschel1, N. Mizuno1; 2Structural Cell Biology, Max Planck Institute of Biochemistry, Martinsried, Germany

B606/P1592 Mechanical coupling of B2 integrins to the actin cytoskeleton by a mechanosensitive molecular clutch drives complement-mediated phagocytosis. V. Jaumouillé1, A.X. Cartagena-Rivera1, R.S. Chadwick2, C.M. Waterman1; 1National Heart, Lung and Blood Institute, National Institutes of Health, Bethesda, MD, 2National Institute of Deafness and Other Communication Disorders, National Institutes of Health, Bethesda, MD
B617/P1603 PRKCH in cell migration: molecular mechanism and functional significance. H. Lin1, C. Tsai2, F. Tsai2; 1Graduate Institute of Immunology, College of Medicine, National Taiwan University, Taipei, Taiwan, 2Institute for Integrative Sleep Medicine, University of Tsukuba, Tsukuba, Japan, 3Department of pharmacology, College of Medicine, National Taiwan University, Taipei, Taiwan, 4Department of Internal Medicine, National Taiwan University Hospital, Taipei, Taiwan

B618/P1604 Cytoskeletal dynamics of rapid morphological changes in Lacrymatoria oculus. E.M. Flaim2,3, S.M. Coyle1,2, B. Benson1,2, D. Krishnamurthy1,2, M. Prakash1,2,3,4; 1Graduate Program in Biophysics, Stanford University, Stanford, CA, 2Bioengineering, Stanford University, Stanford, CA, 3Applied Physics, Stanford University, Stanford, CA, 4Mechanical Engineering, Stanford University, Stanford, CA, 5Mechanical Engineering, Stanford University, Stanford, CA, 6Faculty Scholar, Howard Hughes Medical Institute, Stanford, CA, 7Investigator, Chan Zuckerberg Biohub, Stanford, CA

B619/P1605 Identifying a role for LIM domain proteins in apical constriction. M.M. Slabodnick1,2, S.C. Tinton1, A. Chen1, T. Cupp1, B. Goldstein1; 1Biologics, University of North Carolina at Chapel Hill, Chapel Hill, NC

B620/P1606 Effects of mechanical pressure on Schizosaccharomyces pombe. J. Lemière1,2, M. Delarue1, F. Chang1, 1Department of Cell Tissue Biology, UCSF, San Francisco, CA, 2Laboratoire d’Analyse et d’Architecture des Systèmes, CNRS, Toulouse, France

B621/P1607 Enhancement of cell stiffness and disorganization of cytoskeletal architecture upon cisplatin treatment in head and neck cancer cell model. J. Gummel1, M. Raudenska1,2, M. Kratovichiva1, J. Pribil1, T. Vicar1, M. Masarik1,2; 1Dept. of Pathological Physiologyst, Masaryk university, Faculty of Medicine, Brno, Czech Republic, 2Central European Institute of Technology, Brno University of Technology, Brno, Czech Republic, 3Central European Institute of Technology, Masaryk university, Brno, Czech Republic

B622/P1608 Investigating roles of Obs1I for skeletal muscles and 3M-growth syndrome. J. Blondelle1, V. Marrocco1, M.C. Clark1,2, S. Cooper1, S. Draper1, J. Bryant1, J. Nguen1, M. Wright1, S.N. Brenner1, E. Pierantozzi1, V. Sorrentino1, S. Ward1, M. Ghassemian1, S. Lange1; 1Division of Cardiology, University of California, San Diego, La Jolla, CA, 2Department of Orthopedic Surgery, University of California, San Diego, La Jolla, CA, 3Department of Molecular and Developmental Medicine, University of Siena, Siena, Italy, 4Department of Chemistry and Biochemistry, University of California, San Diego, La Jolla, CA

B624/P1610 Septin family proteins coordinate collective border cell migration. J.A. Mondo1, A. Gabbert1, J.P. Campanale1, D.J. Montell1; 1Molecular Cellular and Developmental Biology, University of California Santa Barbara, Santa Barbara, CA

B625/P1611 Dramatic shape change of motile zebrafish keratocytes induced by compression. E.C. Norby1, A.S. Kennard1, J.A. Theriot1; 1Biophysics Program, Stanford University, Stanford, CA, 2Department of Biology, University of Washington, Seattle, WA

B626/P1612 Novel Tetrahymana Cytoskeletal Proteins Form Liquid Droplets and Hydrogels In Vivo and In Vitro. J.E. Honts1,2; 1Biology, Drake University, Des Moines, IA

B627/P1613 Dynamic hand in hand interaction between actin and spectrin during mammalian cell mechanoadaptation. A. Ghielen1, C. Gall1, P. Monzo1, Q. Li1, G. Scita1, P. Maiuri1, N.C. Gauthier1; 1IFOM Institute FIRC Molecular Oncology, Milano, Italy

B628/P1614 A novel role for very long chain fatty acids in immune cell phagocytosis. R.D. Labitigan1,2, D. Vorselen1,2, J.A. Theriot1,2; 1Department of Biochemistry, Stanford University, Stanford, CA, 2Department of Biology, University of Washington, Seattle, WA

B629/P1615 Septin filament assembly regulation. B. Woods1, A.S. Gladfelter1, K. Cannon1; 1Biology, University of North Carolina, Chapel Hill, NC

Chemotaxis and Directed Cell Migration

B630/P1616 Stochastic Dynamics of Confined Cell Migration. D.B. Brückner1,2, A. Fink1,2, C. Schreiber1,2, J.O. Räder1,2, C.P. Broeders1,2,3; 1Faculty of Physics, Ludwig-Maximilians-University, Munich, Germany, 2Center of NanoScience, Ludwig-Maximilians-University, Munich, Germany, 3Arnold Sommerfeld-Center for Theoretical Physics, Ludwig-Maximilians-University, Munich, Germany

B631/P1617 Contact guidance is cell cycle-dependent. K. Esopi1,2, B. Attia1,2,3, E. Cardenas De La Hoz1, A.R. Cohen1, B. Gligorijevic1,2; 1Bioengineering Department, Temple University, Philadelphia, PA, 2Department of Electrical and Computer Engineering, Drexel University, Philadelphia, PA, 3Cancer Biology Program, Fox Chase Cancer Center, Philadelphia, PA

B632/P1618 Macropinocytosis overcomes directional bias due to hydraulic resistance to enhance space exploration by dendritic cells. H.D. Moreau1,2,3; 1Institut Curie, PSL Research University, CNRS, UMR 8237 CNRS/UPMC, PARIS, France, 2INSERM U932, Institut Curie, ANR-10-IDEX-0001-P2* PS* and ANR-11-LABX-0043, PARIS, France, 3PSL Research University, Sorbonne Universités, UPMC – CNRS, Laboratoire PhysicoChimie Curie, Institut Curie, PARIS, France, 4Institut Pierre-Gilles de Gennes, PSL Research University, PARIS, France, 5Institut Curie, PSL Research University, CNRS, UMR 144, PARIS, France, 6Institut Pasteur, Dynamics of Immune Responses Unit, PARIS, France, 7INSERM U1223, PARIS, France, 8ESPCI ParisTech, PARIS, France, 9Laboratoire Jean Perrin, UM 8237 CNRS/UPMC, PARIS, France

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B643/P1622 Scaffolding of the RhofGEF Ect2 by Desmoplakin at cell junctions regulates junctional rhoA and actomyosin contractility. K. Amsler1, J. Asli2, A. Koltouva1, B. Humbel2, J.A. Theriot1; 1Biophysics Program, Stanford University, Stanford, CA, 2Department of Medicine, University of California San Diego, La Jolla, CA

B646/P1631 Lack of correlation between paracellular permeability to large solutes and occludin protein mobility in renal epithelia. A. Moreno-Roman1, J.L. Bubendorf2, R. Vasan3, D. Veltovich3, A. Dahan2; 1Department of Medicine, University of California, San Francisco, CA, 2Department of Physiology, University of Iowa, Iowa City, IA, 3Department of Physiology and Biophysics, Thomas Jefferson University, Philadelphia, PA

B647/P1632 Asymmetric biogenesis of occluding junctions drives integration of stem cell progeny during epithelial turnover. P. Moreno-Roman1, J. Kolotouva1, B. Humbel2, L.E. O’Brien1; 1Department of Biology, Stanford University, Stanford, CA, 2Electron Microscopy Facility, Université de Lausanne, Lausanne, Switzerland, 3Department of Molecular and Cellular Physiology, Stanford University, Stanford, CA

B648/P1633 Non-Coding Genomic Regulation Identified in Cardiomyocytes. A. Kumar1, S. Thomas1, K. Wong1, V. Lo Sardo1, D. Cheah1, Y. Hou1, J.K. Placone1, T. K asses2, W. Ferguson2; 1Pathology Department, Northwestern University, Chicago, IL, 2Biological Department, American University, Washington, DC

B649/P1634 mir-195 Regulates the Cross-talk Between Astrocyte and Endothelial Cells to Affect Blood Brain Barrier (BBB) Function. S.H. Jiao1, C. Chen2, J. Yang2, Y. Chao3, J.Y. Chan3; 1Institute of New Drug Development, China Medical University, Taichung, Taiwan, 2Genome Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan, 3Translational Research Center, Chang Gung Hospital, Kaohsiung, Taiwan

B650/P1635 Understanding sex differences in hepatic response to environmental toxicants. C. Kirady1, D.G. Cyr1; 1INRS-Institut Armand-Frappier, Laval, QC

B651/P1636 Using Optogenetic Tools to Investigate How Tight Junction Leaks and the Rho Flare Repair Mechanism are Triggered. S.A. Chumki1, R.E. Stephenson1, A.L. Miller2, 3; 1Cell and Molecular Biology Graduate Program, University of Michigan, Ann Arbor, MI, 2Department of Molecular, Cellular, and Developmental Biology, University of Michigan, Ann Arbor, MI

B652/P1637 Resolving the tight junctional structure and dynamic by using super resolution microscopy. H.P. Gonsior1, V. Haucke1, M. Lehmann1; 1Department Molecular Pharmacology and Cell Biology, Leibniz-Forschungsinstitut für Molekulare Pharmakologie, Berlin, Germany

B653/P1638 Analysis of gap junctions in tissue-engineered blood-brain barrier model. A. Bader1, A. Klett1, P. Lüdeke1, A. Heisterkamp1, A. Ngezahayo1; 1Institute of Cell Biology and Biophysics, Department of Biophysics and Cell physiology, Leibniz University Hannover, Hannover, Germany

B654/P1639 A new method for tracking cell-cell forces reveals that tension changes during colony rearrangement. R. Vasan1, D. Williams2, M.C. Maleckar2, P. Ramgami1; 1Mechanical and Aerospace Engineering, University of California, San Diego, San Diego, CA, 2Modeling, Allen Institute for Cell Science, Seattle, WA

B655/P1640 Dynamic reorganization of the actin cytoskeleton and adherens junctions during the early stages of epithelial-mesenchymal transition. I.Y. Zhiltov1, 2, S.N. Rubtsova1, N.I. Litovka1, A.A. Gloushanova2; 1N.I. Blokhin National Medical Research Center of Oncology, Moscow, Russia

B656/P1641 Plectin stabilizes hemidesmosomes and protect colon from colitis. A. Kalendova1, P. Buresova1, L. Sarnova1, J. Skarda2, B. Fabny3, G. Wiche4, M. Gregor1; 1Department of Integrative Biology, Institute of Molecular Genetics of ASCR, Prague, Czech Republic, 2Department of Clinical and Molecular Pathology, Palacky University and University Hospital in Olomouc, Olomouc, Czech Republic, 3Department of Physics, University of Erlangen-Nuremberg, Erlangen, Germany, 4Department of Biochemistry and Cell Biology, MFPL, University of Vienna, Vienna, Austria
Bioengineering of Cell-Matrix Interactions

B677/P1662 3D ECM-based platform: Effects of leachable monomer and rescue agent on dental pulp stem cells. G. Kaufman1

Volpe Research Center, ADA Foundation, Gaithersburg, MD

B678/P1663 Cell Heterogeneity Associated with Non-Coding Locus in iPSC-Derived Smooth Muscle Cells Based on Adhesion Strength. J. Mayner1, P. Beri1, A. Kumar1, J.K. Placone1, T. Ali1, K.K. Baldwin1, A.J. Engler1

Bioengineering, University of California San Diego, San Diego, CA, "Scripps Translational Science Institute, San Diego, CA, "The Scripps Research Institute, La Jolla, CA"
B691/P1675 Pancreatic beta cell differentiation of human tonsil-derived mesenchymal stem cells by regulating cell-matrix interactions. H. Kim1, J. Kim1, M. Ban3, J. Park4, S. Kim3, Y. Hwang3; Soochunhyang Institute of Medi-Bio Science (SIMS), Soochunhyang University, Cheonan-si, South Korea, 2School of Chemical and Biological Engineering, Seoul National University, Seoul, South Korea, 3Department of Otolaryngology-Head neck surgery, Konyang University College of Medicine, Daejeon, South Korea, 4Department of Otolaryngology-Head and Neck Surgery, Soochunhyang University Cheonan Hospital, Cheonan-si, South Korea, 5Biomedical Research Institute, Korea Institute of Science and Technology, Seoul, South Korea

B683/P1668 Matrix rigidity-dependent interplay between FAK and CA2+ at plasma membrane microdomains visualized by fluorescence resonance energy transfer. T. Kim1, Y. Jang1, Y. Hwang1; 1Dept of Bioengineering, The University of Texas at Dallas, Richardson, TX, 2Stephenson Cancer Center, University of Oklahoma Health Sciences Center, Oklahoma City, OK, 3Department of Otolaryngology, University of Oklahoma Health Sciences Center, Oklahoma City, OK

B682/P1667 Pancreatic beta cell differentiation of human tonsil-derived mesenchymal stem cells by regulating cell-matrix interactions. H. Kim1, J. Kim1, M. Ban3, J. Park4, S. Kim3, Y. Hwang3; Soochunhyang Institute of Medi-Bio Science (SIMS), Soochunhyang University, Cheonan-si, South Korea, 2School of Chemical and Biological Engineering, Seoul National University, Seoul, South Korea, 3Department of Otolaryngology-Head neck surgery, Konyang University College of Medicine, Daejeon, South Korea, 4Department of Otolaryngology-Head and Neck Surgery, Soochunhyang University Cheonan Hospital, Cheonan-si, South Korea, 5Biomedical Research Institute, Korea Institute of Science and Technology, Seoul, South Korea

B689/P1676 Cold induced EB50 phosphorylation by PKC epsilon protects cells from apoptosis. P. Chang1, T. Jou1; 1Graduate Institute of clinical medicine, National Taiwan University, Taipei, Taiwan

B693/P1677 Glial Calcium Responses to Nearby Cell Death. V. Gomez-Godinez1, H. Li1, B. Liu1, L. Shi1, C. Wu1, M. Berns1; 1Institute of Engineering in Medicine, University of California San Diego, San Diego, CA, 2Neurosciences, University of California San Diego, San Diego, CA

B694/P1678 Regulation of NMDA-induced excitotoxicity by MIST1 in primary cortical neurons. J. Lim1, R. Lee1, Y. Kim1, I. Lee1, E. Choi1; 1Department of Life Sciences, Korea University, Seoul, South Korea

B695/P1679 Lung endothelial cells isolated from male and female mice retain gender difference in response to stress. M. Zemskova2, S. Kurydakov2, R. Rafikova2, O. Rafikova3; 2Medicine, University of Arizona, Tucson, AZ

B696/P1680 Mitochondria-resident non-releasable AIF mutant may regulate gene expressions related to cell death and proliferation. K. Kondo1, R. Kato1, K. Sakakita1, K. Nakamura1; 1Biochemistry, National Institute of Health Sciences, Kawasaki, Japan

B697/P1681 Survival of apoptotic caspase activation in response to stress. G. Sun1, Y. Argaw1, D.J. Montell1; 1Molecular, Cellular and Developmental Biology, University of California Santa Barbara, Santa Barbara, CA

B698/P1682 Changes in extracellular osmolarity induces a transient stress response that protects the kidney against chemotherapy-induced damage. M.H. Hanigan1,2; 1Department of Cell Biology, University of Oklahoma Health Sciences Center, Oklahoma City, OK, 2Stephenson Cancer Center, University of Oklahoma Health Sciences Center, Oklahoma City, OK

B699/P1683 Study on gravity-dependent skeletal muscle maintenance mechanisms using Zebrafish, aquatic organism. F. Satoh1, M. Choi1, Z. Wang1, K. Imamura2, T. Horiuchi2, F. Sato1, Y. Suzuki1, K. Kawakami3; 1Department of Nephrology, Hiroshima University, Hiroshima, Japan, 2Department of Pediatrics, Nemours/Alfred I. duPont Hospital for Children, Wilmington, DE

Ubiquitin and Proteasome Function

B700/P1684 Expression and protein localization of ERAD pathway targets and enzymes text in C. elegans. R.L. Uhrich1, D. Hassell1, L.L. Dahlberg1; 1Biology, Western Washington University, Bellingham, WA

B708/P1692 Shutdown of ER-associated degradation pathway rescues functions of mutant iduronate 2-sulfatase linked to mucopolysaccharidosis type II. Y. Osaki1, A. Saito1, T. Masaki1, K. Orii1, T. Fukao4, S. Tomatsu1,5,6, K. Imaiizumi1; 1Department of Biochemistry, Hiroshima University, Hiroshima, Japan, 2Department of Stress Protein Processing, Hiroshima University, Hiroshima, Japan, 3Department of Nephrology, Hiroshima University Hospital, Hiroshima, Japan, 4Department of Pediatrics, Gifu University, Gifu, Japan, 5Department of Biological Sciences, University of Delaware, Newark, DE, 6Pediatrics, Nemours/Alfred I. duPont Hospital for Children, Wilmington, DE

B709/P1693 Molecular and behavioral effects in C. elegans ERAD loss-of-function mutants. A.M. Rupert1, M.S. Chapman1, L.L. Dahlberg1; 1Biology Department, Western Washington University, Bellingham, WA

B710/P1694 Ribosome assembly stress elicits an adaptive proteostatic response. B.W. Tye1,2, N. Commis1, M. Springer1, D. Pincus2, S. Churchman3; 1Program in Chemical Biology, Harvard University, Cambridge, MA, 2Genetics, Harvard Medical School, Boston, MA, 3Systems Biology, Harvard Medical School, Boston, MA, 4Whitehead Institute, Cambridge, MA

Cell Death

B689/P1673 Shedding light on cell death: optogenetic control of programmed cell death pathways. K. Shkarina1, E. Hasel1, M. Leptin2, P. Broz3; 1Department of Biochemistry, University of Lausanne, Lausanne, Switzerland, 2Directors’ Research Unit, European Molecular Biology Laboratory, Heidelberg, Germany

B690/P1674 Effects of non-phthalate plasticizers, acetyl tributyl citrate (ATBC), diocyl adipate (DOA) and diocyl terephthalate (DOTP) on Neuro 2a cells. L. Carnell1, V. Ramirez1, E. Wong4; 1Biological Sciences, Central Washington University, Ellensburg, WA

B691/P1675 Molecular mechanism for unsaturated carbonyl compounds-induced vascular cell death. T. Higashi1, Y. Mai1, Y. Mazaki2; 1Dept. Cell. Pharm., Grad. Sch. Med., Hokkaido Univ., Sapporo, Japan

B702/P1685 Responses of molluscan cells to ultra-low temperature exposure. Y. Kiprıyushina1, N. Odintsova1, M. Maiorova1, K. Yakovlev1, A. Boroda2; 1Far Eastern Federal University, Vladivostok, Russia, 2National Scientific Center of Marine Biology, Far Eastern Branch of the RAS, Vladivostok, Russia

B703/P1687 Uncovering the cross-talk between the UPR and the innate immune pathways in response to double-stranded RNAs. N.L. Munizguren1, D. Acosta-Alvear1; 1Molecular, Cellular and Developmental Biology, University of California Santa Barbara, Santa Barbara, CA

B704/P1688 Characterization of the role of the nascent polypeptide-associated complex during misfolded protein stress in C. elegans. R. Ihsan1, M. Gerber2, K. Cicalesi3, T. Bloss3; 1Biology, James Madison University, Harrisonburg, VA

B705/P1689 Inhibition of Bcl-2 Family Proteins Sensitizes Metaphase-arrested Hela S3 Cells to Apoptosis Induced by Mild Hyperthermia. J.R. Paulson1, S. Suydam2, R. Luedtke1, K. Pasczak1; 1Chemistry, University of Wisconsin Oshkosh, Oshkosh, WI

B706/P1690 Connexin 43 Affects Early Embryonic Developmental Competence in Pig. K. Shin1, Y. Niu1, W. Zhou1, Z. Nie1, X. Cui1; 1Animal Science, Chungbuk National University, Cheongju, South Korea

B707/P1691 Expression and protein localization of ERAD pathway targets and enzymes text in C. elegans. R.L. Uhrich1, D. Hassell1, L.L. Dahlberg1; 1Biology, Western Washington University, Bellingham, WA

B708/P1692 Shutdown of ER-associated degradation pathway rescues functions of mutant iduronate 2-sulfatase linked to mucopolysaccharidosis type II. Y. Osaki1, A. Saito1, T. Masaki1, K. Orii1, T. Fukao4, S. Tomatsu1,5,6, K. Imaiizumi1; 1Department of Biochemistry, Hiroshima University, Hiroshima, Japan, 2Department of Stress Protein Processing, Hiroshima University, Hiroshima, Japan, 3Department of Nephrology, Hiroshima University Hospital, Hiroshima, Japan, 4Department of Pediatrics, Gifu University, Gifu, Japan, 5Department of Biological Sciences, University of Delaware, Newark, DE, 6Pediatrics, Nemours/Alfred I. duPont Hospital for Children, Wilmington, DE
Synthetic Chemical Biology and Chemical Biology

B720/P1703 Synthetic condensed-phase signaling, D. Sang1, A. Rice2, M.K. Rosen3, L.J. Holt4; 1Institute for Systems Genetics, New York University, New York, NY, 2Department of Biophysics, University of Texas Southwestern, Dallas, TX

B721/P1704 A Fantastic Voyage Into the Cell: Probing the Rheological Properties of the Cell with Genetically Encoded Multimere (GEM) Nanoparticles. G.P. Brittingham1, M. Delahue2, S. Pinglay3, S. Pfeffer4, J.V. Surovtsev5, B. Engle6, L.J. Holt4; 1Institute for Systems Genetics, New York University Langone Health, New York, NY, 2Department of Molecular and Structural Biology, Max Planck Institute of Biochemistry, Martinsried, Germany, 3Department of Molecular, Cellular, and Developmental Biology, Yale University, New Haven, CT

B722/P1705 The Effect of Oxygen on the Efficacy of Ascorbic acid (AA) as an Antioxidant. C.I. Falzone1, C.F. Saladino2; 1Chemistry/Biochemistry, Misericordia University, Dallas, PA

B723/P1706 The Effect of Oxygen on the Efficacy of NADPH as an Antioxidant. C.F. Saladino1, C.I. Falzone1; 1Chemistry/Biochemistry, Misericordia University, Dallas, PA

B724/P1707 Exposure of human immune cells to Triclosan alters synthesis of IFNy. F.A. Ismail1, M.M. Whalen1, W.J. Wilburn1; 1Chemistry, Tennessee State University, Nashville, TN

B725/P1708 Triclosan alters the ability of human immune cells to synthesize TNF alpha. S.Z. Jami1, M.M. Whalen1, W.J. Wilburn1; 1Chemistry, Tennessee State University, Nashville, TN

B726/P1709 Signaling Pathways Involved in Pentachlorophenol Induced Elevations of Interleukin-6 Synthesis. S. Gabure1, M.M. Whalen1, T. Martin1; 1Chemistry, Tennessee State University, Nashville, TN

B727/P1710 Sulfamethoxazole retards growth and reproduction in Caenorhabditis elegans by inhibiting folate biosynthesis. H.E. Vidana1, J.M. Derham2, G.R. Periyannan3, B.P. Nathan4; 1Department of Biological Sciences, Eastern Illinois University, Charleston, IL, 2Department of Chemistry and Biochemistry, Eastern Illinois University, Charleston, IL

B728/P1711 Mapping the impulse-response function in living, primary T cells. S.T. Lownam1, J.J. Lin1, D.B. McAffee2, S. Alvarez3, S.D. Hansen1, J.T. Groves1; 1Chemistry, University of California, Berkeley, CA, 2Materials Science and Engineering, University of California, Berkeley, CA, 3Chemistry and Biochemistry, University of Oregon, Eugene, OR

B729/P1712 Modifying Bean Lectin to Improve Digestibility. J. Hernandez1, S. So2, M.B. Zavala1; 1Biological Chemistry State University, Northridge, Northridge, CA

B730/P1713 Site Specific Labeling of JC Polyomavirus Capsid Protein Using n-Clamp Mediated Conjugation. F. Voorhees1, J.A. Barcelo1, A. Chillo1, H. Morgenstern1, F.M. Rossi1, C.D. Nelson1; 1Department of Biological Sciences, SUNY Cortland, Cortland, NY
Epithelia and Tissue Mechanics in Development

B756/P1738 Mechanical coordinates: designing geometrical microenvironments for the control mechanical waves in model tissues. V. Petrolli, O. Mandula, L. Herve, C. Allier, P. Moreau, M. Balland, G. Cappello, Physics, Laboratory of Interdisciplinary Physics (CNRs), Grenoble, France, Leit, CEA, Grenoble, France

B757/P1739 The role of p38 in embryonic wound repair. G. Scepanovic, R. Fernandez-Gonzalez, Cell and Systems Biology, University of Toronto, Toronto, ON, Ted Rogers Centre for Heart Research, Toronto, ON, The Hospital for Sick Children, Toronto, ON, Institute of Biomaterials and Biomedical Engineering, University of Toronto, Toronto, ON

B758/P1740 Distinct modes of cell competition shape tissue morphogenesis and function in mammalian skin. S. Ellis, J. Levorse, E. Fuchs, Laboratory of Mammalian Cell Biology and Development, The Rockefeller University, New York, NY

B759/P1741 Topological transitions of epithelial surfaces. K. Ishihara, E. Gromberg, M.N. Shabazi, M. Zernicka-Goetz, J. Bragués, F. Jülicher, Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, Germany, Max Planck Institute for the Physics of Complex Systems, Dresden, Germany, Center for Systems Biology Dresden, Dresden, Germany, Research Institute of Molecular Pathology, Vienna, Austria, University of Cambridge, Cambridge, United Kingdom

B760/P1742 A geometry-based model is sufficient to describe lumen stability in epithelial cells. G. Vasquez, V. Vachharajani, A.R. Dunn, Chemical Engineering, Stanford University, Stanford, CA, Biophysics, Stanford University, Stanford, CA

B761/P1743 A cytohesin Arf-GEF (Steppeke) promotes actin protrusions for tissue morphogenesis in vivo. J.J. West, T. Harris, Cell and Systems Biology, University of Toronto, Toronto, ON

B762/P1744 Oscillatory myosin polarity and cell migration during Drosophila cardiac morphogenesis. N. Balagh, R. Fernandez-Gonzalez, Engineering Science, University of Toronto, Toronto, ON, Translational Biology and Engineering Program, University of Toronto, Toronto, ON, Institute of Biomaterials and Biomedical Engineering, University of Toronto, Toronto, ON, Cell and Systems Biology, University of Toronto, Toronto, ON, Developmental and Stem Cell Biology, Hospital for Sick Children, Toronto, ON

Living Cells, University of Illinois at Urbana-Champaign, Urbana, IL, Graduate Program in Quantitative and Computational Biosciences, Baylor College of Medicine, Houston, TX, School of Physics and Astronomy, Shanghai Jiao Tong University, Shanghai, China, Institute of Natural Sciences, Shanghai Jiao Tong University, Shanghai, China

B747/P1730 Diffusion of DNA-binding species in the nucleus: the final transient anomalous subdiffusion model. M.J. Saxton, Biochemistry & Mol Med, University of California, Davis, CA

B748/P1731 Stochastic Multifractality of Microtubule Dynamic Instability Process. F.C. Sudenga, V. Rezania, Physical Science, MacEwan University, Edmonton, AB

B749/P1732 The Cupin1 domain of plant seed storage proteins possesses amyloid-forming properties. M.V. Belousova, M.E. Belousova, O.Y. Shirk, A.O. Kosolapova, A.A. Nizhnikov, K.S. Antonets, Department of Genetics and Biotechnology, Saint Petersburg State University, Saint Petersburg, Russia, Laboratory for Proteomics of Supra-Organismal Systems, All-Russia Research Institute for Agricultural Microbiology, Saint Petersburg, Russia

B750/P1733 Topological changes of lipids during reversed emulsification induced by antimicrobial agents. D. Drabik, A. Kaczkowska, S. Kraszewski, Department of Biomedical Engineering, Faculty of Fundamental Problems of Technology, Wroclaw University of Science and Technology, Wroclaw, Poland

B751/P1734 Modeling the effects of ligand binding on the phase behavior of aggregation-prone proteins. K.M. Ruff, A.E. Posey, R.V. Pappu, Department of Biomedical Engineering, Washington University in St. Louis, St. Louis, MO

B752/P1735 Relative contributions of Calcium dependent ACs and PDEs drive the phase of Cyclic AMP and Ca2+ in -Cells. B. Tenner, M. Getz, D. Ohadi, P. Rangamani, J. Zhang, Pharmacology, UCSD, La Jolla, CA, Biophysics and Biophysical Chemistry, Johns Hopkins University School of Medicine, Baltimore, MD, Chemical Engineering, UCSD, La Jolla, CA, Mechanical and Aerospace Engineering, UCSD, La Jolla, CA, Bioengineering, UCSD, La Jolla, CA, Chemistry and Biochemistry, UCSD, La Jolla, CA, Moores Cancer Center, UCSD, La Jolla, CA

B753/P1736 The Signaling Pathways Project: an integrated ‘omics knowledgebase for mammalian cellular signaling pathways. N.I. McKenna, S.A. Ochsenreiter, Department of Molecular and Cellular Biology, Baylor College of Medicine, Houston, TX

B754/P1737 A Saddle Point Formation during Zebrafish Gastrulation Describes the Morphogenetic Flow of Convergence and Extension and Emergence of Left-Right Chirality. J. ZHONG, P.T. Matsudaira, A. Kabla, D. Bhattacharya, S. Tavakoli, Department of Biological Science, National University of Singapore, Singapore, Singapore, Center for Bioimaging Sciences, National University of Singapore, Singapore, Singapore

Computational Cell Biology

B738/P1721 Mechanical traits uncover functional plasticity and identity of tissue-specific macrophages. A.P. Cruz, J. Caldas, C. Abreu, A. Oliveira, I. Mendes Pinto, Cell Mechanics, International Iberian nanotechnology Laboratory, Braga, Portugal, HeartGenetics, Genetics Biotechnology, S.A, Cantanhede, Portugal, Medical School, Swansea University, Swansea, United Kingdom, Instituto Superior Técnico, University Lisbon, Lisbon, Portugal

B739/P1722 Using an unbiased classification approach reveals multiple fusion categories of VAMP2-mediated synaptic exocytosis. F.L. Urbina, S.L. Gupton, Cell Biology and Physiology, University of North Carolina at Chapel Hill, Chapel Hill, NC

B740/P1723 Characterizing proteins associated with injury-induced sensitization in the tobacco hornworm, Manduca sexta. R. Melton, S. Ramirez, T. Deniston, M. Fuse, Cell Biology, San Francisco State University, San Francisco, CA


B742/P1725 Constructing the Morphology Space of Mitochondrial Networks in Budding Yeast. G.R. Lewis, W.F. Marshall, Biophysics Graduate Program, University of California - San Francisco, San Francisco, CA, Department of Biochemistry and Biophysics, University of California, San Francisco, CA

B743/P1726 Incoherent input increases the robustness of oscillations. Z. Li, M. Sun, S. Wang, M. Jin, Q. Yang, Computational Medicine and Bioinformatics, University of Michigan, Ann Arbor, MI, Biophysics, University of Michigan, Ann Arbor, MI, Physics, University of Michigan, Ann Arbor, MI

B744/P1727 The physics of information processing of a simple genetic circuit. M. Razo-Mejia, R. Phillips, BM8, California Institute of Technology, Pasadena, CA

B745/P1728 Allotropy and Kinetic Proofreading. V. Galstyan, R. Phillips, Biochemistry and Molecular Biophysics Option, California Institute of Technology, Pasadena, CA, Department of Physics, California Institute of Technology, Pasadena, CA, Department of Applied Physics, California Institute of Technology, Pasadena, CA, Division of Biology and Biological Engineering, California Institute of Technology, Pasadena, CA

B746/P1729 Measuring Transcription at a Single Gene Copy Illuminates mRNA Dynamics and Reveals Intracellular Correlations. M. Wang, J. Zhang, H. Xu, I. Golding, Verna Mars McLean Department of Biochemistry and Molecular Biology, Baylor College of Medicine, Houston, TX, Center for Theoretical Biological Physics, Rice University, Houston, TX, Center for the Physics of
Endoderm, Muscle and Neural Development

B775/P1757 nox2/cybb is required for proper axonal pathfinding in developing zebrafish nervous system. A. Terzi1, C.J. Weaver1, H. Roeder1, T.M. Gurol1, Q. Deng1, Y. Leung1, D.M. Suter1; 1Biological Sciences, Purdue University, West Lafayette, IN

B778/P1760 An in vitro functional assay to predict and study in vivo skeletal muscle stem cell engraftment outcomes. b. Xu1,2, S. Davoudi1,2, M. Ebrahimi1,2, J. Cadavid3, L. Pilaz1,2; 1Cell and Developmental Biology, Columbia University, New York, NY, 2Cell Biology, Duke University, Durham, NC, 3Department of Urology and Surgery, Boston Children's Hospital and Harvard Medical School, Boston, MA, 4INSERM U1016, Institut Cochin, Paris, France

B787/P1768 Scaling of nuclear sizes, DNA content, and synthetic activity in multinucleated muscle fibers. S.E. Windner1, A. Manhart2, A. Brown3, J. Pai1, M.K. Baylies1, A. Mogilner4; 1Developmental Biology, Sloan Kettering Cancer Center, New York, NY, 2Cell Biology, Memorial Sloan Kettering Cancer Center, New York, NY

B787/P1768 Prolonged mitosis of neural stem cells in vivo alters neural cell fate acquisition during cortical development. A.M. Mitchell-Dick1, L. Pilaz1, D. Silver2,3, 1Cell Biology, Duke University, Durham, NC, 2Molecular Genetics and Microbiology, Duke University, Durham, NC

B800/P1767 In vivo lineage conversion of skeletal muscle into endoderm-like cells. C. Campbell1, J. Lamacan1, R. Espin Palazon2, J. Matalonga1, D. Traver1, D. Dong1; 1Genetic Disease, Sanford Burnham Prebys Medical Discovery Institute, La Jolla, CA, 2Cellular and Molecular Medicine, University of California, San Diego, La Jolla, CA

B888/P1770 A critical role for HnrrnpU during mouse cortical development. O. Reiner1, T. Sapir1, O. Devinsky2,1; 1Developmental Biology, Memorial Sloan Kettering Cancer Center, New York, NY, 2Department of Developmental Neurobiology, Weizmann Institute of Science, Rehovot, Israel
Cell Division and Gene Expression in Development

B796/P1778 Cellular shape sensing mechanism regulates transition from two-dimensional to three-dimensional embryo expansion in zebrafish. L.I. Rathburn1, X. Bai2, J.N. Bembenek3, J. Armak3, H.A. Hennaly4; 1Biology, Syracuse University, Syracuse, NY, 2Biochemistry Cellular and Molecular Biology, University of Tennessee, Knoxville, TN; 3Cell and Developmental Biology, SUNY Upstate Medical University, Syracuse, NY

B797/P1779 Interaction between Bms1 and Rcl1, two ribosome biogenesis factors, is evolutionarily conserved in zebrafish and human. Y. Wang1, Q. Zhu2, L. Huang2, Y. Zhu3; College of Animal Sciences, Zhejiang University, Hangzhou, China

B798/P1780 Differentially-dimensioned furrow formation by zygotic gene expression and the MBT. Y. Xie1, J.T. Blankenship2; 1Biological Sciences, University of Denver, Denver, CO

B799/P1781 Spatiotemporal Patterning of Zygotic Genome Activation in Vertebrate Embryogenesis. H. Chen1, L.C. Einstein2; 1Molecular and Developmental Biology, University of Pennsylvania, Philadelphia, PA; 2Bioengineering, University of Pennsylvania, Philadelphia, PA

B800/P1782 Compensatory Response to the Genetic Perturbation of ABCB1a Transporter Activity in Sea Urchin Embryos. H.D. Rosenblatt1; 1Biological Sciences, University of California, San Francisco, CA

B801/P1783 Deciphering the role and dynamics of chromatin contacts in embryonic development using Genome Architecture Mapping. G. Loof1, A. Kukalev1, H. Lim1, J. Grosfils1, A. Seitz1, S. Tsukiyama1, K. Jaffe1, J. Grosfils1; 1Laboratory of Experimental Molecular Genetics, Graduate School of Arts and Science, University of Tokyo, Tokyo, Japan

B802/P1784 Abscission dynamics of embryonic cortical neural stem cells. K.C. McNeely1, N.D. Dwyer1; 1Cell Biology, University of Virginia, Charlottesville, VA

B803/P1785 An automated method for analyzing 4D high content imaging data to profile the gene set controlling embryonic development. R.A. Green1, R. Khalilullin1, S. Ochoa Mikrut1, Z. Zhao2, S. Wang3, J. Hende3, A. Gerson3, R.J. Biggs4, T. Chow2, A. Desai2, K. Oegema2; 1Cellular and Molecular Medicine, University of California, San Diego, San Diego, CA; 2Developmental Biology, Memorial Sloan Kettering Cancer Center, New York, NY

B804/P1786 Patterned expression of ABC membrane transporters during gut morphogenesis and epithelial immune responses. C.S. Schrannel1, A.M. Hamdoun1, A. A. Alsubait1, A. K. Corsi1; 1Biology, The Catholic University of America, Washington, DC

B805/P1787 Identifying an accessory regulator for arg-1 expression in Caenorhabditis elegans vulval muscles. A.A. Alsabait1, A.K. Corsi2; 1Biology, The Catholic University of America, Washington, DC

B806/P1788 Fus regulates mammary stem cells self-renewal and mammary gland development by controlling cell cycle. h. wang1, M. Cheng2, H. Ke2, L. zhao3, Q. Yang2, L. zou3, B. jiao4; 1Kunning Institute of Zoology, Kunning Institute of Zoology, Chinese Academy of Sciences, Kunming, China

B807/P1789 Utilizing CBX5 Ubiquitous Chromatin Opening Element (UCOE) to Improve Expression of Cassettes Integrated into Safe Harbor Sites During Retinal Development. A.E. Koehler1, R.A. Anderson1, A. Ogata1, F. fu2, M.K. Jones3, M. Chow4, H.M. Martin5, K.J. Wahnlin6; 1Department of Ophthalmology, University of California, San Diego, La Jolla, CA

B808/P1790 Investigating Critical Centrosomal Proteins that Facilitate Spindle Rotation. A. Yancey1; 1Biology, San Francisco State, San Francisco, CA

Cytoskeleton and Cell Motility in Development

B809/P1791 Imaging how the pluripotent inner mass forms in the living mouse embryo. M.D. White1, J. Zenker1, Y.D. Alvarez1, M. Gasnier2, H. Lim1, S. Bissiere1, N. Plachta; 1IMCB, Agency for Science, Technology and Research, A*STAR, Singapore, Singapore

B810/P1792 An Intrinsic Cell Biological Landscape Dictates Gastrointestinal Movements In The Developing Zebrafish Embryo. S. Nair1, T. Menon2; 1Biological Sciences, Tata Institute of Fundamental Research, Mumbai, India

B811/P1793 Nuclear layer of Drosophila syncitial blastoderm behaves like an elastic sheet. Z. Lu1, J. Grobman2; 1Institut für Entwicklungsbiologie, University of Göttingen, Göttingen, Germany

B812/P1794 Cell cycle and cytoskeleton regulation of cell migration and differentiation of C. elegans sex myoblasts and zebrafish paraxial mesoderm. R.C. Adikes1, N. Kim1, B.L. Allen1; 1Department of Biochemistry and Cell Biology, Stony Brook University, Stony Brook, NY, 2Medical Scientist Training Program, Stony Brook University, Stony Brook, NY

B813/P1795 Localization of serendipity-a mRNA is precisely timed during Drosophila embryo cellularization. L.R. Figard1, A.M. Sokac2; 1Biochemistry and Molecular Biology, Baylor College of Medicine, Houston, TX

B814/P1796 Novel Role for KIF17 in the Developing Cerebellum. B. Waas1, B.L. Allen1; 1Cell and Developmental Biology, University of Michigan, Ann Arbor, MI

B815/P1797 Contact activation of locomotion and chemotaxis dictate cell segregation in Dictyostelium. T. Fujimori1, A. Nakajima1, N. Shimada2, S. Sawai2; 1Dept. of Basic Science, Grad. Sch. of Arts Sci., Univ Tokyo, Tokyo, Japan, 2Res. Ctr. for Complex Syst. Biol., Univ Tokyo, Tokyo, Japan
**Prokaryotic Cell Biology 1**

**B826/P1807** Daptomycin failure to treat S. aureus biofilms: contribution of multimodal fluorescence micro/nanoscopy techniques. R. Boujdjema1; C. Cabril2; N. Bourg3; G. Dupuis2, R. Briandet1, A. Gruss1, F. Dubois-Brissonnet1, M. Fontaine-Aupert1; K. Steenekste1,2, S. Lévéque-Fort2; CNRS UMR 8214, Université Paris Sud, Université Paris Saclay, Institut des Sciences Moléculaires d’Orsay (ISMO), Orsay, France, 1Université Paris-Sud, CNRS, Université Paris-Saclay, Centre Laser de l’Université Paris-Sud (CLUPS/LUMAT), Orsay, France, 2AgroParisTech, Université Paris-Saclay, Micalis Institute, INRA, Jouy-en-Josas, France, 3Faculté de Médecine, UPRES EA 3826, Université de Nantes, Nantes, France

**B817/P1798** Linear or exponential? Single-cell growth laws of Corynebacterium glutamicum. J. Messelink1, F. Meyer1, M. Brankamp2, C. Broeders1; Arnold-Sommerfeld-Center for Theoretical Physics, LMU Munich, Munich, Germany, 1Department Biologie I, Ber. Mikrobiologie, LMU Munich, Munich, Germany

**B821/P1803** Lateral interactions between protofilaments of the bacterial tubulin homolog FtsZ that are essential for cell division. F. Guan1, J. Xu1, J. Yu1, Y. Liu2, Y. Li2, Z. Chang2, S. Ye1; 1Life Sciences Institute, Zhejiang University, Hangzhou, China, 2School of Life Sciences, Peking University, Beijing, China

**B823/P1810** Contribution of the MacAB drug efflux pump to motility of Serratia marcescens SM6. T.V. Shishkova1, M.R. Sharipova1, L.M. Bogomolnaya1,3, 1Institute of Fundamental Medicine and Biology, Kazan Federal University, Kazan, Russia, 2Institute of Protein Research, Pushchino, Russia, 3Institute of Fundamental Medicine and Biology, Kazan Federal University, Kazan, Russia, 4Department of Biologie et de Génomique Structurales, Institut de Génétique et de Biologie Moléculaire et Cellulaire, Strasbourg, France

**B824/P1805** Survey of Antibiotic Resistant Bacteria in the Lake College Pond Sediment. R.B. Billings1, B. Wyatt1, M. Van Strij1; 1Biology, Lane College, Jackson, TN

**B825/P1806** Understanding the Molecular Mechanisms of Antibiotic Resistance in the Human Pathogen Acinetobacter baumannii. B. Whitehead1, K. Robinson1, H. Alexander1, D. Marshall2, S. Damo1; 1Life and Physical Sciences, Fisk University, Nashville, TN, 2Pathology, Anatomy and Cell Biology, Meharry Medical College, Nashville, TN

**B818/P1799** Division site selection linked to pole growth dynamics and cell surface wave troughs in mycobacteria. H.A. Eskandarian1; 1Sciences de la Vie, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland

**B830/P1811** Antibiotic and anti-biofilm activities of acetic acid and honey. C. Arcchelu1, M. Belaumaran1, S. Britz1, B. Schoffstall1; 1Department of Biology, Barry University, Miami, FL

**B832/P1808** Neutrophil adhesion and TNF-α production by LPS-stimulated monocytes are decreased in vitro by a new thalidomide and furoxan derivative hybrid. C.M. De Souza1, C. Lanaro1, T. Melo1, C.P. Franco-Penteado1, S.T. Saad1, J.L. dos Santos2, F.F. Costa1; 1Hematology and Hemotherapy Center, University of Campinas, Campinas, Brazil, 2School of Pharmaceutical Sciences, São Paulo State University, Araarquara, Brazil

**B819/P1800** The MiniDE system forms a propagating diffusion barrier that drives directed membrane protein transport. B. Ramm1,2, P. Glock1, J. Muecksch1, P. Blumhardt1, D.A. García-Soriano1,2, H. Alexander2, B. Schoffstall1; 1Department of Microbiology and Biology, California Institute of Technology, Pasadena, CA, 2Pathology, Anatomy and Cell Biology, Meharry Medical College, Nashville, TN

**B827/P1808** Solution NMR structure of Hibernation Promoting Factor reveals detailed interface of ribosome dimerization in Staphylococcus aureus. K. Usachev1,2, B.F. Fakhthurin1,2, I.S. Khusainov1,2, A.G. Gabdulkhakov3, S.Z. Validov1, V. Klovchkov1, A.V. Aganov1, B. Kieffer4, M.M. Yusupov1,2,1; 1Laboratory of Structural Biology, Institute of Fundamental Medicine and Biology, Kazan Federal University, Kazan, Russia, 2NMR Laboratory, Medical Physics Department, Institute of Physics, Kazan Federal University, Kazan, Russia, 3Institute of Protein Research, Pushchino, Russia, 4Department of Biologie et de Génomique Structurales, Institut de Génétique et de Biologie Moléculaire et Cellulaire, Strasbourg, France

**B828/P1809** Crystal structure of C-terminal domain homodimer of Hibernation Promoting Factor from Staphylococcus aureus. B.F. Fakhthurin1,2, A.G. Gabdulkhakov3, N.V. Lekontseva1, S.V. Tischenko1, I.S. Khusainov1,2, S.Z. Validov1, K.S. Usachev1, M.M. Yusupov1,2,1; 1Laboratory of Structural Biology, Institute of Fundamental Medicine and Biology, Kazan Federal University, Kazan, Russia, 2NMR Laboratory, Medical Physics Department, Institute of Physics, Kazan Federal University, Kazan, Russia, 3Institute of Protein Research, Pushchino, Russia, 4Department of Biologie et de Génomique Structurales, Institut de Génétique et de Biologie Moléculaire et Cellulaire, Strasbourg, France

**B829/P1810** The anti-fibrosis peptide acetyl-Ser-Asp-Lys-Pro-OH (AcSDKP) increases laminin a4 chain gene expression in rat kidney fibroblasts. F. Katagiri1, K. Kimura1, R. Takayanagi1, Y. Yamada1; 1Department of Clinical Evaluation of Drug Efficacy, Tokyo University of Pharmacy and Life Sciences, Hachioji, Japan

**B831/P1812** Yeast sporulation is dependent on Sporulation Kinase 1. M. Arizmendi1,2, S. Ye1,3, K. Usachev1,2, N. Bourg4, Y. Li5, Z. Cheng1,4; 1Life Sciences Institute, Zhejiang University, Hangzhou, China, 2School of Life Sciences, Peking University, Beijing, China

**B836/P1816** Osteoblast differentiation and bone mineralization in response to quercetin hydrate. D. Wyché1, J.V. Belcher1; 1Science, Cabrini University, Radnor, PA

**B837/P1817** Regulation of TGFbeta’s profibrotic response contributing to lung fibrosis. D.M. Hernandez1,2, M. Andrianfahana1, X. Yin1, J. Kang1, A.H. Limper1, B. Lof2; 1Thoracic Disease Research Unit, Mayo Clinic College of Medicine, Rochester, MN, 2Biochemistry Molecular Biology, Mayo Clinic Graduate School of Biomedical Sciences, Rochester, MN

**B838/P1818** The anti-fibrosis peptide acetyl-Ser-Asp-Lys-Pro-OH (AcSDKP) increases laminin a4 chain gene expression in rat kidney fibroblasts. F. Katagiri1, K. Kimura1, R. Takayanagi1, Y. Yamada1; 1Department of Clinical Evaluation of Drug Efficacy, Tokyo University of Pharmacy and Life Sciences, Hachioji, Japan

**B839/P1819** Erythrocyte rigidity modulates blood clot contraction and polyhydroxye formation. V. Tutwiler1, R.I. Litvinov1, C. Nagasawami1, J.E. Russel1, D.L. Siege1, C. Villa1, D. Pani1, V. Muzykantov1, J.W. Weisel1; 1University of Pennsylvania, Philadelphia, PA

**B840/P1820** Neutrophil adhesion and TNF-α production by LPS-stimulated monocytes are decreased in vitro by a new thalidomide and furoxan derivative hybrid. C.M. De Souza1, C. Lanaro1, T. Melo1, C.P. Franco-Penteado1, S.T. Saad1, J.L. dos Santos2, F.F. Costa1; 1Hematology and Hemotherapy Center, University of Campinas, Campinas, Brazil, 2School of Pharmaceutical Sciences, São Paulo State University, Araraquara, Brazil

**B841/P1821** Development and Utilization of a Fibroblast Populated Collagen Matrix Model to Study the Effect of Cellular Senescence on Wound Healing. U. Niyogi1, M.A. Carlson1,2; 1Molecular Genetics and Cell Biology, University of Nebraska Medical Center, Omaha, NE, 2Omaha VA Medical Center, Omaha, NE
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B842/P1822 MC903-induced atopic dermatitis elicits anxiety- and depressive-like behavior that is associated with neural adaptations in brain reward circuitry. M. Yeom1, S. Ahn1, D. Hahn1,2, H. Park1,2,3; 1Acupuncture Meridian Science Research Center, College of Korean Medicine, Kyung Hee University, Seoul, South Korea, 2Department of Physiology, School of Medicine, Kyung Hee University, Seoul, South Korea, 3Department of Korean Medical Science, Graduate School, Kyung Hee University, Seoul, South Korea

B843/P1823 2-carba cyclic phosphatidic acid contributes to the repair of stab-wounded cerebral cortex via regulation of microglial and astrocyte cells. M. Nakashima1, K. HASHIMOTO1, A. Hamano1, H. Ikehishima-Kataoka1, M. Gotoh1, K. Murakami-Murofushi1, Y. Miyamoto1; 1Human Life Innovation, Ochanomizu University, Tokyo, Japan

B844/P1824 Ex-vivo human models for enabling translational pain research. A. Ton1, T. Indersmit1, Y. Miron1, N. Nguyen1, P. Ratchada1, K. Sweit1, P. Miller1, A. Ghetti1; 1ANABIOS CORPORATION, SAN DIEGO, CA

B845/P1825 Anti-diabetic effect of Grifola frondosa Ameliorating Hyperglycemia and Dyslipidemia in db/db Mice. Y. Kim1, J. Kim1, D. Kang1, E. Lee1, D. Kim1; 1Life Science, Gachon University, Seongnam, South Korea

B846/P1826 Stem cells to regenerate trabecular meshwork with glaucoma treatment potential. Y. Du1, Y. Wang1, A. Kumar1; 1Developmental Biology, University of Pittsburgh, Pittsburgh, PA, 2Ophthalmology, University of Pittsburgh, Pittsburgh, PA

B847/P1827 Elevated Elastase, Matrix Metalloproteinase-2, Tenascin-C, Osteopontin, and Epidermal Growth Factor are Associated with Pulmonary Hypertension in Neonates with Congenital Diaphragmatic Hernia. C.J. Hung1,2, B.G. Wild1,2, S. Langlois1,2, K.N. Cowan1,2,3; 1Surgery, Children's Hospital of Eastern Ontario, Ottawa, ON, 2Molecular Biomedicine Program, Children's Hospital of Eastern Ontario Research Institute, Ottawa, ON, 3Cellular and Molecular Medicine, University of Ottawa, Ottawa, ON

B848/P1828 Wound healing of the mouth using Pichia pastoris to produce and secrete the basic Fibroblast Growth Factor (bFGF). H.M. Le1,2, G.P. Lin-Cereghino1, D. Thor1, J. Lin-Cereghino1; 1Research, University of the Pacific Arthur A. Dugoni School of Dentistry, San Francisco, CA, 2Biology, University of the Pacific, Stockton, CA

B849/P1829 Substance P delayed development of diabetes by preserving pancreatic β-cells in type 1 and type 2 diabetic mice. S. CHOI1, J. Um1, N. Jung1, D. Kim1, S. Lee1, Y. Son1, K. Park1,2; 1Graduate School of Biotechnology, Kyung Hee University, Yongin, South Korea, 2Kyung Hee University Hospital at Gangdon, Kyung Hee University, Seoul, South Korea, 3Department of Biomedical Science and Technology, Graduate School, Kyung Hee University, Seoul, South Korea, 4East-West Medical Research Institute, Kyung Hee University, Seoul, South Korea, 5College of Medicine, Kyung Hee University, Seoul, South Korea

B850/P1830 Exploring CRISPR/Cas9 mediated gene correction strategies on rescuing recessive genetic disorder. J. Hu1, R.A. Bourne1, A. Lin1, B.C. McGrath1, D.R. Cavener2; 1Department of Biology, The Pennsylvania State University, University Park, PA

B851/P1831 Mitochondrial administration improves mitochondrial function and reduce inflammation response. J. Hwang1, Y. Choi1; 1Biotechnology, CHA University, Seongnam-si, South Korea

B852/P1832 Healthy mitochondrial delivery restores damaged tenocytes via suppressing ROS generation. J. Lee1, M. Kim1, K. Min2, Y. Choi1; 1Biotechnology, CHA University, Seongnam, South Korea, 2Rehabilitation Medicine, CHA Bundang Medical Center, Seongnam, South Korea
Monday Poster Session
Learning Center, Exhibit Halls D-H

Poster Set Up
Sunday 6:00-6:30 pm

Posters Displayed
Sunday 6:30-8:00 pm
Monday 7:30 am-3:00 pm

Author Presentation
Odd Boards 12:00-1:30 pm
Even Boards 1:30-3:00 pm

Poster Tear Down
Monday 3:00-6:00 pm

Board Numbers           Session Titles                          Board Numbers           Session Titles
B1-B30                  Science Education 2                        B509-B528                Lipids and Membrane Microdomains
B32-B52                 New Technologies in Cell Biology 2                     B529-B550                Mitochondria, Chloroplasts,
B53-B73                 New Technologies in Light and Electron Microscopy                   and Peroxisomes 2
B75-B93                 Actin-Membrane Interactions                                      Signaling Scaffolds and Microdomains
B94-B112                Regulation of Actin Dynamics 2                                   Post-Translational Modifications
B113-B130               Actin and Associated Proteins 2                                  in Signaling
B132-B154               Myosins                                                                 Rho-Family GTPases
B156-B179               Microtubule Dynamics 1                                             B594-B618                Mechanotransduction 1
B181-B199               Cilia Motility and Multi-Ciliated Cells                                Dynamics of Focal Adhesions
B201-B217               Centrosome Assembly and Functions 2                                     and Invadosomes
B218-B237               Spindle Assembly 1                                                          Cell-Cell Junctions 2
B238-B256               Kinetochores 1                                                          B626-B642                 Integrins and Cell-ECM Interactions 1
B257-B271               Chromosomes                                                                  Focal Adhesions and Invadosomes
B273-B302               Oncogenes and Tumor Suppressors 2                                       Autophagy
B303-B325               Tumor Invasion and Metastasis 2                                           Chaperones, Protein Folding, and Quality
B326-B347               Cancer Therapy 2                                                            Control 1
B349-B358               Epigenetics and Chromatin Remodeling                                      Mechanobiology of Cells and Tissues 1
B359-B370               Gene Structure and Transcription                                        Cell Polarity, ECM, and Cell-Cell
B373-B390               The Nuclear Envelope                                                  Interactions in Development
B392-B411               Endocytic Trafficking 2                                              Stem Cells and Pluripotency
B412-B432               Endosomes, Lysosomes, and Lysosome-Related Organelles 1               Branching Morphogenesis
B433-B442               Post-Golgi Trafficking                                             Primordial Germ Cells
B443-B455               Rab GTPases                                                          Host-Pathogen/Host-Commensal
B457-B470               Establishment and Maintenance of polarity 1                         Interactions 1
B472-B493               Neurodegeneration 2                                                     Protists and Parasites
B494-B507               Neuronal Signaling                                                   Adipocytes, Metabolism, and Obesity
                                                                                 Immune System
                                                                                 Defining Therapeutic Targets
                                                                                 and New Therapeutics 2

Poster Presentation Guidelines

• Presenters should ensure their posters are placed on the appropriate poster board for the duration of their assigned poster session and viewing. Please use the number starting with “B” for your poster board.

• Poster presenters should stand at their poster locations during the appropriate 90-minute time slot—odd board numbers, 12:00-1:30 pm or even board numbers, 1:30-3:00 pm. The specific time slot is included in the original poster notification emails sent on October 31. If presenters have to leave early, they should post a note on their boards with contact information or stating when they will be available to answer attendee questions.

• IMPORTANT! Poster presenters are solely responsible for placing and removing their poster according to the schedule provided above. If you are unable to set up your poster the evening before your session, please do so the morning of your presentation.

• Poster presenters should not leave any items unattended at their poster board, including poster tubes, meeting bags, Programs, Poster Guides, personal items, etc. The ASCB and EMBO are not responsible for any items left in the Learning Center.

• Cameras/Photography: Cameras and all other recording devices are strictly prohibited in all session rooms, in the Learning Center, and in all poster and oral presentation sessions.
B1/P1833 Gaining STEAM!: Engaging Students with STEM-based comics. J.C. Gardiner1, A.K. Purdy1; 1Cancer Biology, Fox Chase Cancer Center, Philadelphia, PA, 2Academic Affairs, Fox Chase Cancer Center, Philadelphia, PA

B2/P1834 Scientific Animation - A novel assessment task in an undergraduate molecular and cellular biology unit. D. Rhodes2, P. Johanesen3, H.E. Abud1; 1Department of Anatomy and Developmental Biology, Monash University, Melbourne, Australia, 2Department of Microbiology, Monash University, Melbourne, Australia

B3/P1835 Teaching Science to Undergraduates Majoring in Humanities, Business, or Soc. Sci. by Helping them to Understand Cancer. J.R. McIntosh1; 1MCD Biology, University of Colorado, Boulder, CO

B4/P1836 Improving student engagement and success in non-majors biology using a novel interdisciplinary approach. H.N. Tinsley2, A.K. Eckelman1, E.T. Chandler3; 1Biology, Chemistry, and Mathematics, University of Montevallo, Montevallo, AL, 2Behavioral and Social Sciences, University of Montevallo, Montevallo, AL, 3English and Foreign Languages, University of Montevallo, Montevallo, AL

B5/P1837 Driving student engagement with online interactive pre-class activities. D. Rhodes1, H.E. Abud3, P. Johanesen3; 1Department of Anatomy and Developmental Biology, Monash University, Melbourne, Australia, 2Department of Microbiology, Monash University, Melbourne, Australia

B6/P1838 A two-stage homework system reinforces conceptual learning and can be effectively scaled up to larger class sizes with on-line grading platform. A.J. Earle1, D. Holyoak1, K. Williams2; 1Biomedical Engineering, Cornell University, Ithaca, NY, 2Center for Teaching Innovation, Cornell University, Ithaca, NY

B7/P1839 Undergraduate Perception of Benefits to Active Learning in a Human Anatomy and Physiology Course. H.M. Difrancesca1; 1Biology, University of Mary Hardin-Baylor, Belton, TX

B8/P1840 Critically engaging in exercises with primary literature as the sole means for learning about cancer biology increases undergraduate student comprehension and confidence. K.C. Johnson1; 1Department of Natural Sciences, University of New Hampshire - Manchester, Manchester, NH

B9/P1841 Does student motivation increase with addition of medical topics in a Cell Biology course, and what learning strategies correlate with student success in the course? K.B. Shannon1; 1Biological Sciences, Missouri ST, Rolla, MO

B10/P1842 Transformation of Introductory Cell Biology into a flipped classroom with a model-based reasoning approach led to significant reduction of the “achievement gap” in underserved students. S.K. Olson1, M.L. Petreaca1; 1Biology, Pomona College, Claremont, CA, 2Biology, DePauw University, Greenville, IN

B11/P1843 The influence of active learning practices on student anxiety in large-enrollment college science classrooms. K.M. Cooper1, V.R. Downing1, S.E. Brownell1; 1School of Life Sciences, Arizona State University, Tempe, AZ

B12/P1844 GenBio-MAPS: A programmatic assessment to measure student progress in understanding Vision and Change core concepts across a general biology curriculum. A.J. Crow1, B.A. Couch1, S.E. Brownell1, C.D. Wright1; 1Biology, University of Washington, Seattle, WA, 2School of Biological Sciences, University of Nebraska-Lincoln, NE, 3School of Life Sciences, Arizona State University, Tempe, AZ

B13/P1845 A Qualitative Investigation of Students’ Biology Interest & Career Goals Related to Persistence in STEM Career Pathways. A.A. Rowland1, L.A. Corvin1, K.E. Franks1, S.L. Eddy2; 1Ecology and Evolutionary Biology, University of Colorado at Boulder, Boulder, CO, 2Biological Sciences, Florida International University, Miami, FL

B14/P1846 Preliminary Analysis of Students’ Decisions to Withdraw from Biology and Chemistry Gateway Courses. L. Hammond-Odle1, C. Burch1; 1School of Science and Technology, Georgia Gwinnett College, Lawrenceville, GA

B15/P1847 Culturally responsive curricula: Tibetan Buddhist monastic attitudes toward and perceptions of science education. K.M. Gray1, J. Shreecengost2, C. Worthman1, A. Eisen1; 1Emory-Tibet Science Initiative, Emory University, Atlanta, GA, 2Neuroscience, Georgia State University, Atlanta, GA

B16/P1848 Spanish-language Version of a Science Identity Survey: Translation, Cultural Adaptation, and Evaluation. L.M. Hernandez1, P.A. Lerandón Ramí1, F. Laureano-Torres1, L. Pérez-Donato1, N. Calzada-Jorge1, S. Mendoza1, A. Washington1, M. Borro1; 1Biology, University of Puerto Rico, Rio Piedras, PR, 2Centro de Recursos para Ciencias e Ingeniería, University of Puerto Rico, Rio Piedras, PR

B17/P1849 PREP-KC's Life Sciences Academy: Preparing Kansas City's students for STEM College and Career Success. K.N. Jones-Jamtgaard1, D. Binion1; 2PREP-KC, Kansas City, MO

B18/P1850 Promoting Minority Students’ Interest in Science by Building a Bridge between Community Colleges and Research-Intensive Institutions. C. Inda1, D. Martinez2, N.J. Nunez Rodriguez3, T. Tomita1, V. Garcia-Marin1, L. Diaz-Mataix1, R. Fenutria1, M. Sanchez1, M.Cols1, S. Joshi1, G. Guillazo1; 1Natural Science Dept, Hostos Community College, Bronx, NY, 2Dept. of Biochemistry, Albert Einstein College of Medicine, Bronx, NY, 3Neuroscience Dept, Center of Neural Science, New York University, New York, NY, 4Division of Infectious Diseases, Department of Medicine, Icahn School of Medicine at Mount Sinai, New York, NY, 5Pharmacology Dept, Memorial Sloan Kettering Cancer Center, New York, NY

B19/P1851 Feeding Minds and Families: An Afterschool STEM Outreach Program to Support Students and their Families. Q.L. Aoh1, C. Barger1; 1Biology, Gannon University, Erie, PA

B20/P1852 Using repeated and consistent graduate student visits to improve teacher confidence, foster scientific enthusiasm, and build a scientific community in Bay Area elementary schools. D.J. Kramer1, D.T. Castanzo1, E.K. Nichols1; 1Molecular and Cellular Biology, University of California, Berkeley, Berkeley, CA

B21/P1853 What constitutes effective sessional teaching? A qualitative stakeholder analysis. D. Rhodes1, Q.A. Fogg1, M.D. Lazarus1; 1Department of Anatomy and Developmental Biology, Monash University, Melbourne, Australia, 2Department of Anatomy and Neuroscience, University of Melbourne, Melbourne, Australia

B22/P1854 Gender differences in student perceptions of instructor humor in college science courses. K.M. Cooper1, S.E. Brownell1; 1School of Life Sciences, Arizona State University, Tempe, AZ

B23/P1855 Sustained mentorship promotes the development of active learning strategies in undergraduate biology classrooms: evidence gained from the Promoting Active Learning and Mentoring (PALM) Network. S.M. Wick1, M.J. Wolyniak1; 1Biology Teaching & Learning, University of Minnesota-Twin Cities, Minneapolis, MN, 2Biology, Hampden-Sydney College, Hampden-Sydney, VA

B24/P1856 Share your expertise and enthusiasm with teachers: Organize a workshop to build cheap homemade microscopes for classrooms. B. Goldstein1, 2Biology, UNC Chapel Hill, Chapel Hill, NC

B25/P1857 Connecting Current Research to the Next Generation Science Standards. H. Osheroff1, K.R. Yu2; 1Exploratorium, San Francisco, CA

B26/P1858 Seeing Scientifically: Supporting scientific observation in a museum setting. J. Ma1, E. Shahar1, J. Kong1, K.R. Yu2; 1Exploratorium, San Francisco, CA

B27/P1859 Foldscope: Building a global community to scale-up access to scientific tools and magnify curiosity worldwide. M. Prakash1, J. Cybulski2, F. Users2; 1Bioengineering, Stanford University, Stanford, CA, 2Foldscope Instruments, San Francisco, CA

B28/P1860 Hollywood-Style Movie Trailers Increase Student Interest. L.K. Goudsouzian1; 1Natural Science, Desales University, Center Valley, PA

B29/P1861 First Semester Research Experiences in Cell Biology: Perspectives from Student Participants. E. Ambler1, L. Dedmon1, C. Swift1, S.D. Davis1, J.L. Brewster2; 1Natural Science Division, Pepperdine University, Malibu, CA, 2Department of Biology, Whittier College, Whittier, CA

B30/P1862 A cell science rich post-baccalaureate course as a predictive indicator of health professional school admissions and success. M.A. Taylor1,2; 1Biomedical Sciences, Pacific Northwest University of Health Sciences, Yakima, WA, 2Science, Heritage University, Toppenish, WA, 3Pharmacy and Pharmaceutical Sciences, Washington State University, Spokane, WA
New Technologies in Cell Biology 2

B32/P1863 Development of multicistronic expression system in phycocrythrin petal. L.R. Valeeva1, E.V. Zakirova1, A. Rizvanov1, E.V. Shakirov1,2; 1Institute of fundamental medicine and biology, Kazan (Volga region) federal university, Kazan, Russia, 2Department of Integrative Biology, University of Texas at Austin, Austin, TX

B33/P1864 Expression of bacterial phytases in arabidopsis thaliana roots. L.R. Valeeva1, C. Nyamursuren1, E.V. Shakirov1,2, M.R. Sharipova1; 1Institute of fundamental medicine and biology, Kazan (Volga region) federal university, Kazan, Russia, 2Bayangol-20, Tolgoit-37, P.O. Box 436, Gatsuurt LLC, Ulaanbaatar, Mongolia, 3Department of Integrative Biology, University of Texas at Austin, Austin, TX

B34/P1865 Expression of Bacillus ginsengii humi M2.11 phytase gene in the methylophytic yeast Pichia pastoris. D. Troshtagina1, A.D. Suleimanova1, M.R. Sharipova1; 1Institute of fundamental medicine and biology, Kazan (Volga region) federal university, Kazan, Russia

B35/P1866 Histidine acid bacterial phytase expressed in Yarrowia lipolytica. A.D. Suleimanova1, D. Troshtagina1, M.R. Sharipova1; 1Microbiology, Kazan University, 2Department of Community Medicine and Fisheries, Kobe-Shi, Hyogo-Ken, Japan, 3Department of Biomedical Engineering and Environmental Sciences, National Tsing Hua University, Hsinchu, Taiwan

B36/P1867 Rapid and label-free detection of anthrax spores using quantitative phase imaging and deep learning. Y. Park1; 1Physics, KAIST, Daejeon, South Korea

B37/P1868 Comparative metabolomics of skeletal muscle of livestock using gas chromatography–mass spectrometry. S. Ueda1, E. Iwamoto1, Y. Kato1, M. Shinhara1, Y. Shira1, M. Yamanoue1; 1Department of Agrobioscience, Kobe University, Kobe-Shi, Hyogo-Ken, Japan, 2Hyogo Prefectural Technology Center of Agriculture, Forestry, and Fisheries, Kobe-Shi, Hyogo-Ken, Japan, 3Department of Community Medicine and Social Health Care, Kobe University, Kobe-Shi, Hyogo-Ken, Japan, 4The Integrated Center for Mass Spectrometry, Kobe University, Kobe-Shi, Hyogo-Ken, Japan

B38/P1869 Synthetic molecular evolution of cell-specific cell penetrating peptides. W.C. Wimley1, W.B. Kauffman1, S. Guha1; 1Biotechnology, Tulane University School of Medicine, New Orleans, LA

B39/P1870 Novel Engineered Basic Fibroblast Growth Factor Improves Stability and Enables Improved Cell Culture Outcomes. B.N. Balhouse1, D. Navarro2, R. Josephson1, M. Dallas3; 1Thermo Fisher Scientific, Frederick, MD

B40/P1871 Droplet Based 3D Cell Culture Methods to Enable Investigations of the Chemical Tumor Microenvironment. J.A. De Lora1, F.A. Fendi1, A.D. Macias1, J.L. Velasquez1, G.P. Lopez1, J.P. Freyer1, A.P. Shreve1, N.J. Carroll1; 1Center for Biomedical Engineering, The University of New Mexico, Albuquerque, NM

B41/P1872 3D tissue-engineered cell model of neuroblastoma for evaluating cytotoxic and miRNA-targeted therapeutics. C. Curtis1,2, J. Nolan1,2, F. O’Brien1,2, O. Piskareva1,2; 1Advanced Materials and Bioengineering Research Centre (AMBER), DUBLIN, Ireland, 2Department of Anatomy, Royal College of Surgeons in Ireland, DUBLIN, Ireland, 3Department, National Children’s Research Centre, DUBLIN, Ireland, 4Molecular and Therapeutics Department, Royal College of Surgeons in Ireland, DUBLIN, Ireland

B42/P1873 Sonogenetic modulation of cellular activities using an engineered auditory-sensing protein. Y. Huang1, C. Fan2, N. Hsu1, C. Wu1, Y. Chuang1, Y. Chang2, W. Hsu1, Y. Lin1, S. Huang1, C. Yeh1, Y. Lin1; 1Institute of Molecular Medicine, National Tsing Hua University, Hsinchu, Taiwan, 2Department of Biomedical Engineering and Environmental Sciences, National Tsing Hua University, Hsinchu, Taiwan

B43/P1874 Sonogenetic modulation of cellular activities using TRPC4 proteins. N. Hsu1, Y. Huang1, Y. Chuang1, Y. Chang2, W. Hsu1, S. Huang1, Y. Lin1, C. Fan2, Y. Lin1, C. Yeh1, C. Wu1; 1Institute of Molecular Medicine, National Tsing Hua University, Hsinchu, Taiwan, 2Department of Biomedical Engineering and Environmental Sciences, National Tsing Hua University, Hsinchu, Taiwan

B44/P1875 Dielectrophoretic particle separation for organelle isolation and analysis from the single cell. C. Yun1,2, M. Rahman1, T. Kwak1, Y. Choi1, W. Chang1; 1Mechanical Engineering Department, University of Wisconsin-Milwaukee, Milwaukee, WI, 2Department of Biomedical Engineering and Environmental Sciences, National Tsing Hua University, Hsinchu, Taiwan

B45/P1876 Screening of distinctive features of neutrophils from patients with sickle cell anemia by imaging flow cytometry. F. Garcia1, R. Mendonça1, S.O. Saad1, N. Conran1, F.F. Costa1; 1Hematology Center, University of Campinas – UNICAMP, Campinas, Brazil

B46/P1877 Label-free impedance analysis as a versatile tool for label-free dynamic screening for organelle isolation and analysis from the single cell. X. Bi1,2, B. Lamarche1, L. Zhao1, Y. Abassi1; 1ACEA Biosciences Inc., San Diego, CA

B47/P1878 Multiplexed automated imaging assays for compound testing using inducible pluripotent stem cell-derived cell models. O. Sirekno1, F. Spira1, R. Gordon2, G. Chandy1; 1Molecular Devices LLC, San Jose, CA, 2STEMOXYN, Inc., Marple Grove, MN

B48/P1879 Improved gene expression in hard-to-transfect cells with the jetOPTIMUS® Transfection Reagent. V. Moreau-Toussaint1, M. Denu1, T. Benchimol1, F. Prémartin1, M. Portel1, M.P. Dumont1, G. Guerin-Peyrou1, M. Hellia1, Y. Philipson1, F. Stock1, G. Freund1, P. Erbach1; 167, Polypus-Transfection, Illkirch Graffenstaden, France

B49/P1880 Cell biology and genetic tool development in the marine diatom genus Pseudo-nitzschia. G. Smith1, A. Woods1, D. Robertson2; 1Moss Landing Marine Laboratories, Moss Landing, CA, 2Biology, Clark University, Worcester, MA

B50/P1881 Development of high-throughput cardiotoxicity testing system using multielectrode array with agarose microchannel technology. N. Tadokoro1, T. Kaneko2; 1Laboratory for Reconstructive Cell biology, Hosei University, Yokohama-shi, Japan

B51/P1882 Left-Handed Double-Stranded Z-DNA Microarrays. C.E. Gagna1, A. Sattari1, A. Haidery1, M. Gupta1, F. DeOcampo1, A. Malhotra1, Z. Khwaja1, M. Ahsan1; 1Life Sciences, New York Institute of Technology, Old Westbury, NY

B52/P1883 Engineering membraneless organelles via optical induction of protein phase separation. J.B. Dabboud1, M. Tong1, M.C. Good1; 1Cell and Developmental Biology, University of Pennsylvania, Philadelphia, PA
B67/P1900 Adding dimensions to in vivo microscopy from single cell to developing embryos. F. Cutrale1,2, H.R. Chiang1,2, W. Shi1,2, E.S. Koo1,2, C. Arnesano3, S. Ojoepanos3, D. Rodriguez4, L.A. Trinh1,2, S.E. Fraser1,2,3,4; 1Biomedical Engineering, University of Southern California, Los Angeles, CA, 2Translational Imaging Center, University of Southern California, Los Angeles, CA, 3Center of Regenerative Medicine in Barcelona, Barcelona, Spain, 4Mechanical Engineering, Universidade Federal Fluminense, Rio de Janeiro, Brazil

B70/P1901 Coordinated Histone Modifications and Chromatin Reorganization in A Single Cell Revealed by FRET Biosensors. Q. Peng1, S. Lu1, S. Chien1, Y. Wang1, Bioengineering, UC San Diego, La Jolla, CA

B71/P1902 Development of genetically-encoded actin probes for fluorescence polarization microscopy. N. Nakai1, F. Sato1, K. Sato1, T. Tan1, S. Terada1; 1Medical and Dental Sciences, Tokyo Medical and Dental University, Tokyo, Japan, 2Marine Biological Laboratory, University of Chicago, Woods Hole, MA

B72/P1903 Multi-color targeted imaging of live cancer cells and tissues using fluorophore-labeled and peptide-conjugated plasmonic metal nanoparticles. W. Qian1, R. Kopelman1,2, B. Liu1, NanoBio Department, IMRA America Inc., Ann Arbor, MI, 2Department of Chemistry, University of Michigan at Ann Arbor, Ann Arbor, MI

B73/P1904 Icy: a state-of-the-art community software for bioimage analysis. J. Olivo-Marín1, Icy Team1; Bioimage Analysis, Institut Pasteur, Paris, France

Actin-Membrane Interactions

B75/P1905 Type I myosin anchor assembly to the plasma membrane during clathrin-mediated endocytosis. R.T. Pedersen1, S. Pyrassopoulos2, D. Safer1, E.M. Otsu1, D.G. Drubin2; 1Department of Molecular and Cell Biology, University of California, Berkeley, CA, 2Department of Cell Biology, Cell Biology and Physiology Center, National Heart, Lung and Blood Institute, National Institutes of Health, Bethesda, MD

B76/P1908 Mechanoregulated actin network organization and function in mammalian clathrin-mediated endocytosis. C. Kaplan1, S.J. Kenny1, J. Schönberg1, S. Son1, A. Diz-Muñoz1,2, D.A. Fletcher1, K. Xu2, D.G. Drubin3; 1Department of Molecular and Cell Biology, University of California, Berkeley, CA, 2Department of Chemistry, University of California, Berkeley, CA, 3Department of Bioengineering, University of California, Berkeley, CA, 4Cell Biology and Biophysics Unit, European Molecular Biology Laboratory, Heidelberg, Germany

B79/P1909 Arp2/3 complex-dependent spatial organization of the BCR impacts immune synapse formation, BCR signaling and B cell activation. M. Bolger-Munro1, K. Choi1, L. Abraham1,2, R. Chappell1, J. Scurlth2, D. Sheen1, M. Dang-Lawson1, X. Wu1, D. Coombs3, J.A. Hammer III3, M.R. Gold3; 1Department of Microbiology and Immunology, University of British Columbia, Vancouver, BC, 2Department of Mathematics, University of British Columbia, Vancouver, BC, 3Cell Biology and Physiology Center, National Heart, Lung and Blood Institute, National Institutes of Health, Bethesda, MD

B80/P1910 Essential genes for regulating actin polymerization during clathrin-mediated endocytosis are functionally conserved between Saccharomyces cerevisiae and Schizosaccharomyces pombe. A. Bauer1, K. Hinzker1, O. Feehan-Nelson2, E.B. Lewellyn1, 2Biology, St. Norbert College, De Pere, WI, 3Biology, Lawrence University, Appleton, WI

B81/P1911 Assessing the role of actin in Golgi-derived flagellar protein trafficking. C.J. Stautner1, B. Jack2, P. Avasthi3,4; 1Biology, Spring Hill College, Mobile, AL, 2Anatomy and Cell Biology, University of Kansas Medical Center, Kansas City, KS, 3Ophthalmoogy, University of Kansas Medical Center, Kansas City, KS

B82/P1912 Balanced Rho activation and inhibition regulates exocytosis by large secretory vesicles. E.D. Schjetn2, R. Massarwa1, D. Segal1, B. Shilo1; 1Molecular Genetics, The Weizmann Institute of Science, Rehovot, Israel

B83/P1913 F-actin and septin coordinate to drive the exocytosis of a pro-haemostatic molecule from endothelial cells. C.L. Robinson1, J.J. McCormack2, I.J. White2, D.F. Cutler2, T.D. Nightingale1; 1Centre for Microvascular Research, Queen Mary University of London, London, United Kingdom, 2MRC Laboratory for Molecular Biology, University College London, London, United Kingdom

B84/P1914 Spire1 is required for productive docking of insulin granule at the plasma membrane. X. Liu1, P. L1; 1National laboratory of Biomacromolecules, Institute of Biophysics, Chinese Academy of Sciences, Beijing, China

B85/P1915 Modulation of both mast cell activation and microtubule organization by conventional protein kinase C. Z. Rubiková1, V. Sulimenko1, T. Paulenda1, A. Klebanoyvych1, E. Dráborová1, P. Dráber1; 1Dept. Biology of Cytoskeleton, Institute of Molecular Genetics, CAS, Prague, Czech Republic, 2Dept. Signal Transduction, Institute of Molecular Genetics, CAS, Prague, Czech Republic

Monday Poster Session

B6/P1895 New informative three-dimensional survey of cell/tissue architectures in thick conventional paraffin sections by simple low-vacuum scanning electron microscopy. A. Sawaguchi1, T. Kamamura1, A. Yamashita3, N. Takahashi1, K. Ichikawa2, F. Aoyama2, Y. Asada1, 1Anatomy, University of Miyazaki, Faculty of Medicine, Miyazaki, Japan, 2Hitachi High-Technologies Corporation, Tokyo, Japan, 3Pathology, University of Miyazaki, Faculty of Medicine, Miyazaki, Japan

B63/P1894 Live cell histology for classification of melanoma cell population based on single cell actions. A. Zaritsky1,2, A.R. Jamieson1, J.D. Cillay1, A. Nevarez1, E.S. Well1, G. Danuser1, 1Bioinformatics, UT Southwestern Medical Center, Dallas, TX, 2Information Systems Engineering, Ben Gurion University of the Negev, Be’er Sheva, Israel, 3Biological Sciences, University of California San Diego, San Diego, CA

B64/P1895 3D histology: reconstruction of the mouse kidney glomerular capillary network. M. Terasaki1; 1Cell Biology, University of Connecticut Health Center, Farmington, CT

B65/P1896 Correlative microscopy and blockface imaging (CoMBI): a method to obtain a frozen section maintaining the positional information in the specimen. Y. Tajika1, T. Murakami; 1Department of Anatomy, Gunma University Graduate School of Medicine, Maebashi, Japan

B66/P1897 Multiplexed protein maps link subcellular organization to cellular states. G. Gut1, M.D. Herrmann1, L. Pelkmans1; 1Institute of Molecular Life Sciences, University of Zurich, Zurich, Switzerland

B67/P1898 Hybrid cloud-desktop end-to-end deep learning pipeline for biologists. H. Sasaki1, J. Stansberry1, M. Jones1, S. McElroy2, C. McBride1, C. Birnbaum1, B. Graff1, T. Cheng1, Z. Kenyon1, T. Lacust1, M. Hsieh1, T. Phan1, H. Lai1, C. Huang1, J.S. Lee1, L.A. Lucas1; 2DIRVision Technologies LLC, Bellevue, WA

B68/P1899 Dynamic live cell imaging of CDS9-induced apoptosis at a single cell level using Jurkat T cells captured on microfluidic cell traps. C.S. Chen1, R. Booth1, J. Park1; 1Life Science Workflow, MilliporeSigma, Hayward, CA
Regulation of Actin Dynamics 2

B94/P1924 Actin-based mechanisms of chromosome segregation in mammalian eggs. N. Webb1, B. Mogessie1; 1School of Biochemistry, University of Bristol, Bristol, United Kingdom

B95/P1925 Retrograde flow-induced biased distribution of actin probes in live cells. S. Yamashiro1, D. Taniguchi2, S. Tanaka1, T. Kicuk1, D. Vavylonis1, N. Watanabe1,2; 1Graduate School of Biostudies, Kyoto University, Kyoto, Japan, 2Graduate School of Medicine, Kyoto University, Kyoto, Japan, 3Department of Physics, Lehigh University, Bethlehem, PA

B96/P1926 Two distinct mechanisms for mitochondrially-associated actin filament assembly triggered by Arp2/3 complex or a formin. T. Fung1, R. Chakrabarti1, H.N. Higgs1; 1Department of Biochemistry and Cell Biology, Geisel School of Medicine at Dartmouth, Hanover, NH

B97/P1928 Viral modulation of cytoskeletal kinase ROCK activity elicits processing body disassembly. E.L. Castle1, Corcoran1,2,3; 1Microbiology and Immunology, Vanderbilt University Medical Center, Nashville, TN, 2Biological Sciences, The University of Chicago, Chicago, IL, 3Department of Physics, University of Chicago, Chicago, IL, 4Department of Biochemistry and Molecular Biology, University of Chicago, Chicago, IL, 5Biological Sciences, The James Franck Institute, University of Chicago, Chicago, IL, 6Department of Biology, Reed College, Portland, OR, 7Department of Molecular Genetics and Cell Biology, University of Chicago, Chicago, IL

B98/P1929 A physical link between exocytosis and the actin cytoskeleton in yeast. O. Glomb1, N. Johnson1; 1Institute for Molecular Genetics and Cell Biology, Uni Ulm, Ulm, Germany

B99/P1930 Functional Behavior of Melanoma Cells Under High Confinement, High Contractility and Low Adhesion Mediating Leader Bleb Based Motility. G. Adams Jr1, M. Preciado-Lopez1, R.S. Fischer1, M.A. Baird1, J. Logue1, C.M. Waterman1; 1NHLBI, National Institute of Health, Bethesda, MD, 2Regenerative and Cancer Cell Biology (RCCB), Albany Medical College, Albany, NY

B100/P1931 Formin-mediated actin polymerization stimulates mitochondrial fission, with effects on both mitochondrial membranes. R. Chakrabarty1, H.N. Higgs1; 1Biochemistry and Cell Biology, Geisel School of Medicine at Dartmouth, Hanover, NH

B101/P1932 Three step model of assembly of myofibrils in human iPS cell-derived cardiomyocytes. J. Wang1, Y. Fan1, D.K. Dube1, C. Wang1, Z. Ma1, J.M. Sanger1, J.W. Sanger1; 1Cell and Developmental Biology, SUNY Upstate Medical University, Syracuse, NY, 2Medicine, SUNY Upstate Medical University, Syracuse, NY, 3Biomedical and Bioengineering, Syracuse University, Syracuse, NY

B102/P1933 Muscle specific stress fibers give rise to sarcomeres and are mechanistically distinct from stress fibers in non-muscle cells. A.M. Fenix1, M.R. Visetsouk1, N. Naneja1, A. Neinninger1, R. Gardel2, B. Liu3, B.R. Nixon3, A. Manalo1, J.R. Becker1, S.W. Crawley1, D. Bader2, M.J. Tyska1, Q. Liu1, J.H. Gutzman1, D. Burnett1, C. Robinson1, J.A. Corcoran1,2,3; 1Microbiology and Immunology, University of Florida, Gainesville, FL, 2Biological Sciences, University of Wisconsin Milwaukee, Milwaukee, WI, 3Biomedical Informatics, Vanderbilt University Medical Center, Nashville, TN

B103/P1934 Myosin 18A targets the Rac/Cdc42 GEF P-Pix to dendritic spines to promote spine maturation. C.J. Alexander1, M. Barzik1, J.A. Hammer III1; 1Cell Biology and Physiology Center, National Heart, Lung, and Blood Institute, Bethesda, MD, 2Laboratory of Molecular Genetics, National Institute on Deafness and Other Communication Disorders, Bethesda, MD

B104/P1935 Expanding Actin Rings Zipper the Mouse Embryo for Blastoctyst Formation. J. Zenker1, M.D. White1, M. Gasnier1, Y.D. Alvarez2,3, H. Lim1, S. Bissiere1, M. Biro1, N. Plachta1,2; 1MCB/APSTAR, Singapore, Singapore, 2Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires, CONICET, Buenos Aires, Argentina, 3University of New South Wales, EMBL Australia, Single Molecule Science node, School of Medical Sciences, Sydney, Australia, 4University of New South Wales, ARC Centre of Excellence in Advanced Molecular Imaging, Sydney, Australia, 5Department of Biochemistry, National University of Singapore, Singapore, Singapore

B105/P1936 Ena/VASP is fine-tuned for processive elongation on actin filaments bundled by filopodia crosslinker fascin. A.J. Harker1; 1H.H. Katkar2,3,4; 2T. C. Bidone2,3,4, F. Aydin2,3,4; 3G.A. Voith2,3,4, D.A. Appelwhite1, D.R. Kovar1,2,3; 1Department of Biochemistry and Molecular Biology, University of Chicago, Chicago, IL, 2Department of Chemistry, University of Chicago, Chicago, IL, 3The James Franck Institute, University of Chicago, Chicago, IL, 4Institute for Biophysical Dynamics, University of Chicago, Chicago, IL, 5Department of Biology, Reed College, Portland, OR, 6Department of Molecular Genetics and Cell Biology, University of Chicago, Chicago, IL

B106/P1937 Vaccinia virus generates an intracellular architecture that is optimal for viral replication by modulating cellular scaffolding proteins such as mDia and IQGAP1. M. Greseth1, P. Traktman1; 1Biochemistry and Molecular Biology, Medical University of South Carolina, Charleston, SC, 2Microbiology and Immunology, Medical University of South Carolina, Charleston, SC

B107/P1938 Stoichiometry controls activity of phase separated clusters of actin signaling proteins. J.B. Case1, X. Zhang1, J.A. Ditlev2, M.K. Rosen1; 1Department of Biophysics, UT Southwestern Medical Center, Dallas, TX

B108/P1939 Actin isoform-specific array organization during cytokinesis is differentially controlled by the formins DIAPH1 and DIAPH3. A. Chen1; 1A. R. Wilde1, 2Biochemistry, University of Toronto, Toronto, ON

B109/P1940 A complex containing lysine-acetylated actin and cyclase-associated protein inhibits the formin INF2. M. A1, H.N. Higgs1; 1Biochemistry, Dartmouth College, Hanover, NH
Actin and Associated Proteins 2

B113/P1944 Characterization of Streptomyces griseoflavus coflin, a prokaryotic member of the eukaryotic ADF/Cofilin family of proteins. C.L. Schwebach1, C. Wang1, D. Heisler2, M.L. James2, E. Kudryashova3, V. Sirotkin3, D.S. Kudryashov1; 1Chemistry and Biochemistry, The Ohio State University, Columbus, OH, 2Biology, Brandeis University, Waltham, MA, 3Department of Biochemistry and Molecular Biophysics, Washington University, St Louis, MO, 4Department of Pathology and Immunology, Washington University, St Louis, MO, 5Department of Chemistry, Washington University, St Louis, MO

B114/P1945 Arp2/3 can nucleate filaments of a divergent actin with few conserved Arp2/3 binding residues. B.M. Bigg1, D. Sept1, P. Avasthi1; 1Anatomy and Cell Biology, The University of Kansas Medical Center, Kansas City, KS, 2Biomedical Engineering, The University of Michigan, Ann Arbor, MI

B115/P1946 Actin cross-linking toxin halts dynamics of tandem-organized actin-regulatory proteins in living cells. E. Kudryashova2, D. Heisler2, B. Williams2, K. Shafé2, A. Harker2, D.R. Kova3, M.E. Quinlan1, D. Vayyonis1, D.S. Kudryashov1; 1Department of Chemistry and Biochemistry, The Ohio State University, Columbus, OH, 2Department of Biochemistry and Molecular Biology, University of Chicago, Chicago, IL, 3Department of Chemistry and Biochemistry, UCLA, Los Angeles, CA, 4Department of Physics, Lehigh University, Bethlehem, PA

B116/P1947 SIKE competes with actin for actin binding. T. Marshall1, J.K. Bell1, H.A. Sonnenschein1; 1Chemistry & Biochemistry, University of San Diego, San Diego, CA

B117/P1948 Inhibition of Integrin-Mediated Breast Cancer Cell Adhesion. R.A. Goldsmith1, P.A. Soner2, 1Biological Sciences, Bethel University, St. Paul, MN

B118/P1949 Arp2/3 complex- and formin-mediated actin networks tune actin-binding protein sorting in fission yeast. K.E. Homa1, C. Suarez1, G.M. Hocky1, D.R. Kovar1, 1Molecular Genetics and Cell Biology, The University of Chicago, Chicago, IL, 2Chemistry, New York University, New York, NY, 3Biochemistry and Molecular Biology, The University of Chicago, Chicago, IL

B119/P1950 A Composition-Dependent Molecular Clutch Between T Cell Signaling Condensates and Actin. J.A. Ditlev1, A.R. Vega1, D.V. Koster1, X. Su1, T. Tani2, A.M. Lakodus1, R.D. Vale2, S. Mayor2, J. Jaqaman1, M.K. Rosen1, 1HHMI Summer Institute, Marine Biological Laboratory, Woods Hole, MA, 2Biophysics, HHMI and UT Southwestern Medical Center, Dallas, TX, 3Biophysics, UT Southwestern Medical Center, Dallas, TX, 4Tata Institute for Fundamental Research, National Centre for Biological Sciences, Bangalore, India, 5Cellular and Molecular Pharmacology, HHMI and UC San Francisco, San Francisco, CA, 6Eugene Bell Center for Regenerative Biology and Tissue Engineering, Marine Biological Laboratory, Woods Hole, MA, 7Cell Biology, UT Southwestern Medical Center, Dallas, TX

B120/P1951 SHANK3 binds and regulates actin. S.I. Salomaa1, J. Liija1, M.S. Milhkinen1, E. Kremneva1, P. Lappalainen1, J. Pouwels1, J. Ivaska1; 1Turku Centre for Biotechnology, University of Turku, Turku, Finland, 2Drug Research Doctoral Programme, University of Turku, Turku, Finland, 3Turku Doctoral Programme for Molecular Medicine, University of Turku, Turku, Finland, 4Institute of Biotechnology, University of Helsinki, Helsinki, Finland, 5University of Helsinki, Helsinki, Finland

B121/P1952 β-actin regulates a heterochromatin landscape essential for optimal induction of neuronal programs during direct reprogramming. X. Xie1, R. Jankauskas1, N. Drou2, P. PericPecile1; 1Biophysics, New York University Abu Dhabi, Abu Dhabi, United Arab Emirates, 2Center for Genomics and Systems Biology, New York University Abu Dhabi, Abu Dhabi, United Arab Emirates

B122/P1953 Novel host factors for human respiratory syncytial virus cell-to-cell spread. S.N. Talukdar1, K. Ryan1, V. Kessler1, M. Mehe2; 1Biomedical Sciences, University of North Dakota, Grand Forks, ND

B123/P1954 In vitro reconstruction of LIM domain recruitment to F-actin networks stressed by myosin. C.A. Anderson1, J.D. Winkelman1, M.L. Gardel1, D.R. Kovar1, 1Molecular Genetics and Cell Biology, The University of Chicago, Chicago, IL, 2Institute for Biophysical Dynamics, The University of Chicago, Chicago, IL, 3Physics, The University of Chicago, Chicago, IL, 4James Franck Institute, The University of Chicago, Chicago, IL, 5Biochemistry and Molecular Biology, The University of Chicago, Chicago, IL

B124/P1955 The divergent actin cytoskeleton: Defining structural and cellular mechanisms of host attachment in Giardia. K.L. Hvorecný1, J. Quispe1, W.R. Hardin1, N. Taparia1, A. Halkperm1, G.C. Alas1, P. Tümová1, J.C. Vaughan2, N.J. Sniedecki1, A.R. Paredesz1, J.M. Kollman1; 1Biochemistry, University of Washington, Seattle, WA, 2Biology, University of Washington, Seattle, WA, 3Mechanical Engineering, University of Washington, Seattle, WA, 4Chemistry, University of Washington, Seattle, WA, 5Immunology and Microbiology, Charles University in Prague, Prague, Czech Republic

B125/P1956 Ab2 is recruited to ventral actin waves through cytoskeletal interactions to promote lamellipodium extension. K. Zhang1, W. Lyu2, A.J. Kolesk3, J. Yu4; 1Cell Biology, Yale University, New Haven, CT, 2Molecular Biophysics and Biochemistry, Yale University, New Haven, CT, 3Genetics and Developmental Biology, University of Connecticut, Farmington, CT

B126/P1957 Radiation regulates invasion activity via filopodia-like protrusions. J. Choi1, H. Kwon1, J. Kim2; 1Department of Obstetrics and Gynecology, Gangnam Severance Hospital, Yonsei University College of Medicine, Seoul, South Korea

B127/P1958 Oligomerization affects the ability of human cyclase associated proteins 1 and 2 (CAP1 and CAP2) to promote actin severing by coflinins. V. Purde1, D.S. Kudryashov1; 1Chemistry and Biochemistry, The Ohio State University, Columbus, OH

B128/P1959 Oncomodulin modulates actin cytoskeletal dynamics in the inner ear. C.I. Heflick1, L.K. Climer1, P.L. Simpson1, A.M. Cox1, D.D. Simmons1; 1Biology, Baylor University, Waco, TX

B129/P1960 Profilin-mediated actin allocation regulates microvilli growth. J.J. Faust1, M.J. Tyska1; 1Department of Cell and Developmental Biology, Vanderbilt University School of Medicine, Nashville, TN

B130/P1961 Functional Analysis of Shootin1b in Cell Adhesion and Contact Inhibition of Epithelial Cells. S. Saranpal1, T. Kohta1, M. Toriyama1, N. Inagaki1; 1Laboratory of Systems Neurobiology and Medicine, Division of Biological Science, Nara Institute of Science and Technology, Ikoma, Japan

Myosins

B132/P1962 Myosin 7a is a Processive Motor Which Induces Filopodia By a Novel Binding Partner. R. Liu1, N. Billington1, Y. Yang2, A.S. Hong1, V. Siththanandan1, C. Bond1, Y. Takagi1, J.R. Sellers1; 1Cell Biology, Physiology Center, National Heart, Lung and Blood Institute, Bethesda, MD, 2Laboratory of Functional Proteomics, Human Agricultural University, Changsha, China

B133/P1963 MyTH-FERM Myosin and VASP Cooperation During Filopodia Initiation. A.L. Arthur1, K.J. Petersen1, A. Houdusse1, M.A. Titus1, 1GCD, University of Minnesota, Minneapolis, MN, 2BMBB, University of Minnesota, Minneapolis, MN, 3Structural Motility, Institut Curie, Paris, France
B134/P1964 Myosin Va Liposome Transport is Modulated by Actin Filament Density, Orientation, and Polarity in an in vitro 3D Actin Network. A.T. Lombardo1,2, S.R. Nelson3, G.G. Kennedy1, K.M. Trybus1, S. Walcott1, D.M. Warshaw1, 1Molecular Biology and Genetics, Cornell University, Ithaca, NY, 2Molecular and Cellular Biology, University of Virginia, Charlottesville, VA, 3Department of Biology, University of Richmond, Richmond, VA, 4Department of Pharmacology, University of North Carolina, Chapel Hill, NC

B132/P1965 A class 27 myosin organizes the endosome-like compartment in Toxoplasma gondii. R. Carmelle1, A. Heaslip2, 1Molecular and Cellular Biology, University of Connecticut, Storrs, CT, 2Department of Pharmacology, University of North Carolina, Chapel Hill, NC

B136/P1966 Elucidating the membrane binding mechanism of the unconventional myosin, myosin ID. J.L. Bocanegra1, 1Biology, Brooklyn College of CUNY, Brooklyn, NY

B137/P1967 Kidney disease-associated mutations in MYO1E affect conserved regions in the motor and tail domains of myosin 1e, leading to defects in protein stability, dynamics, and localization. P. Liu1, D. Perez1, J.B. Karchin1, C.D. Pellenz1, S.E. Chase1, M. Presti1, E.L. Plante1, C.E. Martin2, S. Lovric1, F. Hildebrandt1, M. Krendel1, 1Cell and Developmental Biology, SUNY Upstate Medical University, Syracuse, NY, 2Department of Molecular and Cellular Biology, University of Guelph, Guelph, ON, 3Divison of Nephrology, Department of Medicine, Boston Children’s Hospital, Harvard Medical School, Boston, MA

B138/P1968 Slower breast cancer progression in mice lacking myosin-1e is associated with differentially expressed epithelial cell pro-survival signals to a pro-apoptotic phenotype. E.L. Plante1, F.A. Middleton2, E.P. de Jong3, M. Krendel1, 1Department of Cell and Developmental Biology, SUNY Upstate Medical University, Syracuse, NY, 2Departments of Neuroscience and Physiology, SUNY Upstate Medical University, Syracuse, NY, 3Department of Biochemistry and Molecular Biology, SUNY Upstate Medical University, Syracuse, NY

B139/P1969 Uncovering a Myosin XI-Medi­ated Transport Mechanism Conserved between Physcomitrella patens and Arabidopsis thaliana. R.G. Orr1, F. Furt1, E. Armstrong1, E. Agar1, J. Garbarino1, S. Kaptur1, A. Butt1, M. Munson1, L. Vidal1, 1Biolog­y and Biotechnology, Worcester Polytechnic Institute, Worcester, MA, 2Biochemistry and Molecular Pharmacology, University of Massachusetts Medical School, Worcester, MA


B141/P1971 MOY19 interacts with Miro­family GTPases on the mitochondrial outer membrane. J.L. Bocanegra1, B.M. Fujita1, N.R. Melton1, J.M. Cowan1, E.L. Schinski1, T.Y. Tamir1, B. Major1, O.A. Quintero1, 1Department of Biology, University of Richmond, Richmond, VA, 2Department of Pharmacology, University of North Carolina, Chapel Hill, NC

B142/P1972 The role of Non-Muscle Myosin 2A and 2B in the Regulation of Mesenchymal Cell Contact Guidance. A.S. Zhou1, X. Ma2, E.D. Tabdanov1, H. Miao3, H. Wen1, J. Chen1, X. Luo1, P. Provenzano1, R.S. Adelstein2, 1Cell Biology, NHLBI, Bethesda, MD, 2Laboratory for Engineering in Oncology, University of Minnesota, Minneapolis, MN, 3Imaging Physics Laboratory, NHLBI, Bethesda, MD, 4Collaborative Protein Technology Resource, NCI, Bethesda, MD

B143/P1973 Nonmuscle Myosin 2A Is Uniquely Required for Vascular Development in the Mouse Placenta. X. Ma1, Y. Zhang1, R.S. Adelstein1, 1Laboratory of Molecular Cardiology, NHLBI/NH, Bethesda, MD

B144/P1974 Mutations in non-muscle myosin 2A cause male infertility. M. Ahmad1, D.C. Sung1, C.B. Lerma Cervantes1, Y. Liu1, R.E. Cheney2, 1Cell Biology and Physiology, UNC School of Medicine, Chapel Hill, NC

B145/P1975 Deletion of the nonhelical tailpiece of nonmuscle myosin 2s eliminates the bare zone of bipolar filaments and affects localization. X. Liu1, S. Shu1, E.D. Korn1, 1NHBLI, National Institutes of Health, Bethesda, MD

B146/P1976 Novel role(s) for Nonmuscle Myosin II isoforms in mouse renal epithelial transport. K. Otterpohl1, R. Hart1, K. Shan1, B. Lin1, K. Suresndran1, I. Chandrasekar1, 1Enabling Technologies Group, Sanford Research, Sioux Falls, SD, 2Pediatrics and Rare Disease Group, Sanford Research, Sioux Falls, SD, 3Department of Pediatrics, University of South Dakota Sanford School of Medicine, Sioux Falls, SD

B147/P1977 The interaction network of the human Septin 9 reveals an interplay with myosin motors. M. Hecht1, R. Rösl1, S. Wiese1, N. Johnson1, T. Grone­meier1, 1Institute of Molecular Genetics and Cell Biology, Ulm, Germany, 2Core Unit Mass Spectrometry and Proteomics, Ulm, Germany

B148/P1978 Myosin diluted cardiomyopathy mutations SS53P and R360Q weaken actin affinity and reduce muscle function in Drosophila models. A.S. Trujillo1, J. Puthawala2, K. Hsu1, M.C. Viswanathan3, H. Rengifo1, A. Loya1, A.R. Cammarato1, D.M. Swanke2, S.J. Bernstein1, 1Department of Biology and SDSU Heart Institute, San Diego State University, San Diego, CA, 2Department of Biological Sciences, Rensselaer Polytechnic Institute, Troy, NY, 3Division of Cardiology, Johns Hopkins University School of Medicine, Baltimore, MD

B149/P1979 Mutations in nonmuscle myosin II cause abnormal red blood cell morphology through increased myosin-F-actin binding at the membrane. A.S. Smith1, K.R. Nowak1, G. Surendran2, S.R. Nelson1; 1Cell and Development, University of Colorado AMC, Aurora, CO

B150/P1980 Determining the molecular mechanism of non-muscle myosin II partitioning using live cell protein quantification. M.A. Quintanilla1, H. Wu1, J.R. Beach1, 1Cell and Molecular Physiology, Loyola University Chicago, Maywood, IL

B151/P1981 Regulation of myosin II-dependent pigment granule aggregation in retinal pigment epithelium by cyclic AMP and protein kinase A (PKA). C. King-Smith1, J. Quinlan1, N.E. Fischer1, M. Jeffries1, M.L. Quinlan1, E.A. Del Rio1; 1Department of Biology, Saint Joseph’s University, Philadelphia, PA

B152/P1982 Structural basis of nonmuscle myosin-2 regulation. K. Chintathalapudi1, S.M. Heissler1, J.R. Sellers1, NHLBI, National Institutes of Health, Bethesda, MD, 2Department of Physiology and Cell Biology, Ohio State University, Columbus, OH

B153/P1983 The MyTH4-FERM myosin Myo10 is targeted to basolateral filodopa in polarized epithelial cells. E.G. Heimstath1, K. Liu1, R.E. Cheney2, 1Cell Biology and Physiology, UNC School of Medicine, Chapel Hill, NC

B154/P1984 The myosin 7 post lever arm and MyTH4-FERM domain collaborate in filodopa formation. L.D. Songster1, A.L. Arthur1, M.A. Titus1, A. Houdusse2, 1Genetics, Cell Biology, and Development, University of Minnesota - Twin Cities, Minneapolis, MN, 2Structural Motility, Institut Curie, Paris, France

Microtubule Dynamics

B156/P1985 A unified mechanism to govern microtubule rescue. C.P. Fees1, J.K. Moore1, 1Cell and Development, University of Colorado AMC, Aurora, CO

B157/P1986 The Structure and Dynamics of C. elegans Tubulin Reveals the Mechanistic Basis of Microtubule Growth. S. Chaaban1, S. Jarivala2, C. Hsu1, S. Redemann3, J.M. Kollman1, T. Müller-Reichert1, D. Sept2, K. Buil1, G.J. Brouhard1, 1Biology, McGill University, Montreal, QC, 2Computational Medicine and Bioinformatics, University of Michigan, Ann Arbor, MI, 3Molecular Physiology and Biological Physics, University of Virginia, Charlottesville, VA, 4Biochemistry, University of Washington, Seattle, WA, 5Experimental Center, Faculty of Medicine, Technische Universität Dresden, Dresden, Germany, 6Biomedical Engineering, University of Michigan, Ann Arbor, MI, 7Anatomy and Cell Biology, McGill University, Montreal, QC

B158/P1987 Investigating the role of lateral interactions in microtubule dynamics. G.A. Li1, J.K. Moore1, 1Cell and Developmental Biology, University of Colorado Anschutz, Aurora, CO

B159/P1988 The structural, functional and evolutionary implications of the microtubule seam: a hypothesis. R.F. Luduena1, J.A. Tuszynski2, 1Biochemistry and Structural Biology, University of Texas Health San Antonio, San Antonio, TX, 2Physics, University of Alberta, Edmonton, AB

B160/P1989 Effects of Cytoplasm Density on Cellular Dynamics. A.T. Molines1, F. Chang1, 1Cell and Tissue Biology, UCSF, San Francisco, CA
Cilia Motility and Multi-Ciliated Cells

B181/P2009 BOP2/DA8 encodes a conserved FAP that associates with a subset of inner arm dyneins and regulates motility. T.V. Le1, K.R. Augsburger2, R. Bower1, D. Tritschler1, C. Perrone1, K. Vander-Waal-Mills1, E.T. O'Toole1, J. Lin1, D. Nicastro1, M.E. Porter1; 1Genetics, Cell Biology, and Development, University of Minnesota, Minneapolis, MN, 2Molecular, Cellular, and Developmental Biology, University of Colorado, Boulder, CO, 1Cell Biology, University of Texas Southwestern, Dallas, TX

B182/P2010 Cryo-electron tomography provides new insights into the structure of the cilary central pair complex. G. Fu1, L. Zhao2, Y. Hou1, E.E. Dynek1, K. Song1, T.D. Loreng1, E.F. Smith1, G.B. Witman1, D. Nicastro1; 1Department of Cell Biology and Biophysics, University of Texas Southwestern Medical Center, Dallas, TX, 2Department of Radiology, University of Massachusetts Medical School, Worcester, MA, 3Department of Biology, Dartmouth College, Hanover, NH

B183/P2011 The ARM2C gene near the PF27 locus is required for distal assembly of radial spoke complexes in Chlamydomonas flagella. Y. Liu1, P. Yang1; 1Biological Sciences, Marquette University, Milwaukee, WI

Monday Poster Session

Cell Biology, and Development, University of Minnesota, Minneapolis, MN, 1Department of Experimental Pathology, Mayo Clinic College of Medicine, Rochester, MN, 2Center for Drug Design, Academic Health Center, University of Minnesota, Minneapolis, MN, 3Department of Neuroscience, University of Minnesota, Minneapolis, MN

B176/P2005 Development of New Live-Imaging Probes for Microtubules. M. Johnston1, D. Han1, S.E. Woolner1, V. Allan1; 1School of Biological Sciences, University of Manchester, Manchester, United Kingdom

B177/P2006 A role of DRG2 in streptozotocin-induced mouse model of Alzheimer's disease. I. Han1, D. Kang1, J. Park1; 1Biological Sciences, University of Ulsan, Ulsan, South Korea

B178/P2007 Elucidating the mechanics of aster positioning using photopatterned hydrogel enclosures: evidence for pushing forces working over larger than expected length scales. A. Sami1, T. Sulerud1, T. Molsvik1, A.M. Klokken2, J.S. Oakey1, J.C. Gatlin1; 1Molecular Biology, University of Wyoming, Laramie, WY, 2Chemical and Biomolecular Engineering, University of Delaware, Newark, DE, 3Chemical Engineering, University of Wyoming, Laramie, WY

B171/P2000 Dynamics and regulation of microtubule minus ends. C. Strothman1, V. Farmer1, G. Arpaq2, N. Rodgers2, W. Wang1, M. Zanic1,2; 1Cell and Developmental Biology, Vanderbilt University, Nashville, TN, 2Chemical and Physical Biology, Vanderbilt University, Nashville, TN, 3Chemical and Biomedical Engineering, Vanderbilt University, Nashville, TN, 4Biochemistry, Vanderbilt University, Nashville, TN

B172/P2001 Local Microtubule End-to-end Assembly Ensures Accurate Chromosome Segregation. W. Wang1, X. Liu1, Z. Wang1, L. Zhu1, Y. Zhang1, X. Yao1; 1Department of Obstetrics, Gynecology and Women's Health, University of California, San Francisco, CA, 2Department of Genetics, University of California, San Francisco, CA, 3Department of Obstetrics, Gynecology and Women's Health, University of California, San Francisco, CA

B173/P2002 Dissecting multiple classes of dynamic microtubules in mitosis. A.R. Tipon1, G.J. Gorbsky1; 1Cell Cycle and Cancer Biology, Oklahoma Medical Research Foundation, Oklahoma City, OK

B174/P2003 The in situ structure of a pathogenic mutant of LRK2 in Parkinson’s disease. R. Watanabe1, R. Buschauser1, J. Böhm1, M. Audagnotto1, D. Boassa1, S.S. Taylor1, E. Villa1; 1Molecular Biology, University of California, San Diego, La Jolla, CA, 2Biochemistry, Gene Center Munich, University of Munich, Munich, Germany, 3The National Center for Microscopy and Imaging Research, University of California, San Diego, La Jolla, CA, 4Chemistry Biochemistry, Pharmacology, University of California San Diego, La Jolla, CA

B175/P2004 UNC-45A is novel, ATP-independent, MT destabilizing protein that regulates cancer cells’ response to mitotic poisons. A. Mooneyham1,2, I. Izuoka1,2, Q. Yang1, C.E. Coombs1, M. McClenan1, V. Shridhar1, E. Emmings1,2, M. Shetty2, L. Chen3, T. Al1, J. Meints18, M.K. Lee1, P. Yang1; 1Molecular and Cellular Biology, University of California, Berkeley, CA, 2Cell Biology, University of California, San Diego, La Jolla, CA, 3Department of Genetics, University of Minnesota, Minneapolis, MN, 4Masonic Cancer Center, University of Minnesota, Minneapolis, MN, 5Department of Genetics, University of Minnesota, Minneapolis, MN, 6Department of Obstetrics, Gynecology and Women’s Health, University of Minnesota, Minneapolis, MN, 7Neurology and Neurological Sciences, University of California, San Francisco, CA, 8University of California, San Diego, La Jolla, CA

B169/P1998 Severing enzymes amplify microtubule arrays through lattice GTP-tubulin incorporation. A. Vemuri1, E. Szczesna1, E. Zehri1, O. Spector1, N. Grigorieff1,2; 1Cell Biology and Biophysics Unit, Porter Neuroscience Research Center, National Institute of Neurological Disorders and Stroke, Bethesda, MD, 2Howard Hughes Medical Institute, Brandeis University, Waltham, MA, 3Janelia Farm Research Campus, Howard Hughes Medical Institute, Ashburn, VA, 4Department of Molecular Biology, Cell Biology and Biochemistry, Brown University, Providence, RI, 5Biochemistry Biophysics Center, National Heart, Lung and Blood Institute, Bethesda, MD

B170/P1999 Molecular motors destroy microtubules and catalyze tubulin exchange within the lattice. S. Trincin1, D. Inoue1, J. Gaillard1, Z.M. Htet2, M.E. Desantis1, D. Portran1, E. Derivery1, C. Aumeier6, L. Schaedel1, K. Johnn1, C. Leterrer1, S.L. Reck-Peterson1, L. Blanchon1,2, M. Tørø1; 1Cytomorpholab, Laboratoire de Physiologie Cellulaire Végétale, Biosciences Biotechnologie Institute of Grenoble, Univ. Grenoble-Alpes, CEA, CNRS, INRA, Grenoble, France, 2Dept. of Cellular and Molecular Medicine, and Cell and Developmental Biology Section, Division of Biological Sciences, University of California San Diego, San Diego, CA, 3CRBM, CNRS UMR 5237, Montpellier, France, 4Laboratory of Molecular Biology, MRC, Cambridge, United Kingdom, 5Department of Biochemistry, University of Geneva, Geneva, Switzerland, 6Laboratoire Interdisciplinaire de Physique, Univ. Grenoble-Alpes, CNRS, Grenoble, France, 7NeuroCyto Lab, Aix Marseille Université, CNRS, INP UMR7051, Marseille, France, 8Cytomorpho Lab, Institut Universitaire d’Hematologie, Univ. Paris Diderot, INSERM, CEA, Hôpital Saint Louis, UMR51160, Paris, United States

B169/P1997 The combined effect of Taxol and acidification on microtubule dynamics. O. Potter1, P. Yang1; 1Biological Sciences, Marquette University, Milwaukee, WI

B162/P1991 The role of TOG domains and their organization in polymerizing microtubules. B.D. Cook1, I. Flor-Parra1, F. Chang1, J.M. Al-Bassam1; 1Molecular and Cellular Biology, University of California, Davis, Davis, CA, 2Molecular Biology and Biochemistry, Universidad Pablo de Olavide, Seville, Spain, 3Cell and Tissue Biology, University of California, San Francisco, CA

B166/P1995 TACC family members regulate the dynamic microtubule plus-end in an in vitro environment. G. Cammarata1, B. Pratt2, Q. Coughlin1, H. Nazarenko1, L.A. Lowery1; 1Biology, Boston College, Chestnut Hill, MA

B167/P1996 Human CLASP2 specifically regulates microtubule catastrophe and rescue. E.J. Lawrence1, G. Arpaq1, S.R. Norris1, M. Zanic1,2; 1Cell and Developmental Biology, Vanderbilt University, Nashville, TN, 2Chemical and Biomedical Engineering, Vanderbilt University, Nashville, TN, 3Biochemistry, Vanderbilt University, Nashville, TN

B168/P1997 Microtubule elongation and stabilization by a septin GTPase with anti-catastrophe activity. K. Nakos1, M. Rosenberg1, J.R. Bowen1, E. Spilloti1; 1Biology, Drexel University, Philadelphia, PA

B169/P1998 Severing enzymes amplify microtubule arrays through lattice GTP-tubulin incorporation. A. Vemuri1, E. Szczesna1, E. Zehri1, O. Spector1, N. Grigorieff1,2; 1Cell Biology and Biophysics Unit, Porter Neuroscience Research Center, National Institute of Neurological Disorders and Stroke, Bethesda, MD, 2Howard Hughes Medical Institute, Brandeis University, Waltham, MA, 3Janelia Farm Research Campus, Howard Hughes Medical Institute, Ashburn, VA, 4Department of Molecular Biology, Cell Biology and Biochemistry, Brown University, Providence, RI, 5Biochemistry Biophysics Center, National Heart, Lung and Blood Institute, Bethesda, MD

B163/P1993 Crocin, a carotenoid from saffron spice, suppresses spindle microtubule dynamics, activates the mitotic checkpoint and inhibits mitosis. A.V. Sawant1, S. Srivastava1, D. Panda1; 1Department of Biosciences & Bioengineering, Indian Institute of Technology Bombay, Mumbai, India

B164/P1993 CKAP2 is a Potent Microtubule Assembly Factor. T. McAleer1, S. Bechstedt1; 1Anatomy and Cell Biology, McGill University, Montreal, QC

B165/P1994 The role of TOG domains and their organization in polymerizing microtubules. B.D. Cook1, I. Flor-Parra1, F. Chang1, J.M. Al-Bassam1; 1Molecular and Cellular Biology, University of California, Davis, Davis, CA, 2Molecular Biology and Biochemistry, Universidad Pablo de Olavide, Seville, Spain, 3Cell and Tissue Biology, University of California, San Francisco, CA
The Hospital for Sick Children, Toronto, ON, 4Pathology, University of Minnesota Medical School, Minneapolis, MN

B185/P2013 Forgetting how to crawl: evolution of cell motility in the chytrid fungus lineage, K. Vasudevan1, C.M. Baumer2, J.E. Stajich1, T. Stearns1,2; 1Cell Biology, Stanford University, Stanford, CA, 2Plant Pathology and Microbiology, Institute for Integrative Genome Biology, University of California, Riverside, Riverside, CA

B186/P2014 Efficient mucus clearance requires multi-scale integration of ciliary spatial organization and kinetics. G.R. Ramirez-SanJuan1,2; W.F. Marshall1, M. Prakash2; 1Biophysics and Biochemistry, University of California San Francisco, San Francisco, CA, 2Bioengineering, Stanford University, Stanford, CA

B187/P2015 LRRK2 regulates cytoplasmic preassembly of dynein arms in multiciliated cells. H. Kim1, K. Cho1, W. Choi1, H. Gee3; 1Dept of Pharmacology, Yonsei University College of Medicine, Seoul, South Korea

B188/P2016 Mechanisms Regulating Cilia Abundance in Multiciliated Cells. R. Nanjundappa1, D. Kong2, K. Shim1, T. Stearns1, S.L. Brody1, J. Loncarek1, M.R. Mahjoub1,3; 1Medicine (Nephropathy Division), Washington University, St Louis, MO, 2Center for Cancer Research, National Cancer Institute, Frederick, MD, 3Biology, Stanford University, Stanford, CA, 4Medicine (Pulmonary Division), Washington University, St Louis, MO, 5Cell Biology and Physiology, Washington University, St Louis, MO, 6Pathology, University of California, San Francisco, San Francisco, CA

B189/P2017 Multicilin and activated EZF4 induce multiciliated cell differentiation in primary fibroblasts. S. Kim1, L. Ma1, M. Shokhirev1, I. Quigley2, C. Kintner1; 1Cell Biology, Stanford University, Stanford, CA

B190/P2018 Integrated Super-resolution Imaging Toolbox for Diagnosis of Motile Ciliopathies. Z. Liu1, Q. Nguyen1, Q. Guan1, H. Ouyang1, T. Moraes2, S. Dell3, V. Mennella1,3; 1Cell Biology, The Hospital for Sick Children, Toronto, ON, 2Translational Medicine, The Hospital for Sick Children, Toronto, ON, 3Respiratory Medicine, The Hospital for Sick Children, Toronto, ON

B191/P2019 Super-resolution Microscopy of Basal Foot Supramolecular Assembly Reveals Novel Cilium in Airway Multiciliated Cells. Q. Nguyen1, Z. Liu1, R. Nanjundappa2, N. Delgehyr1, H. Ouyang1, L. Zock2, E. Coynaud1, E. Laurent1, S. Dell3, W. Finkbeiner1, T. Moraes1, B. Raught1, C. Czymmek1, M.R. Mahjoub1,3, V. Mennella1,3; 1Cell Biology, The Hospital for Sick Children, Toronto, ON, 2Medicine, Nephropathy division, Washington University, St Louis, St Louis, MO, 3Cell Biology and Neurogenetics, Institute de Biologie de L'Ecole normale superieure, Paris, France, 4Translational Medicine, The Hospital for Sick Children, Toronto, ON

Monday Poster Session

Centrosome Assembly and Functions 2

B201/P2020 SNAP-based inhibition of localized kinase activity reveals the roles of Aurora A and Polo-like kinase 1 at the centrosomes during mitosis. P.J. Bucko1, C.K. Lombard2, A. Bhat1, F.D. Smith3, D.J. Maly4, J.D. Scott4; 1Department of Pharmacology, University of Washington, Seattle, WA, 2Department of Chemistry, University of Washington, Seattle, WA

B202/P2020 Asymmetric PLK1 activity between mitotic centrosomes directs the fate of non-disjoint chromosomes. E.G. Colicino1, M. Bates1, K. Stevens2, J. Freshour1,2, H. Hühnly1,2; 1Cell and Developmental Biology, SUNY Upstate Medical University, Syracuse, NY, 2Biology, Syracuse University, Syracuse, NY

B203/P2030 Molecular architecture of a cylindrical self-assembly at human centrosomes. L. Zhang1, J.J. Ahn1, T. Kim1, Y. Chen1, R. Ghirlando2, K.S. Lee1, J. Park2; 1Metabolism, National Institutes of Health, NC, Bethesda, MD, 2Molecular Biology, National Institutes of Health, NIDDK, Bethesda, MD

B204/P2031 Direct measurement of centrosome mechanical properties in living embryos using focused light-induced cytoplasmic streaming (FLUCS). J. Woodruff1, M. Kreysing1, M. Mittasch1, 2Cell Biology, UT Southwestern Medical Center, Dallas, TX, 3Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, Germany

B205/P2032 The Role and Fate of the Centrosome During Muscle Differentiation. J.M. Geisinger1,2; 1Biology, Stanford University, Stanford, CA, 2Genetics, Stanford University, Stanford, CA

B206/P2033 PK1 and Centrosomes Act in Parallel to Control Mitotic Entry in Human Cells. R. Kabeche1,2, R.L. Davis1, M.B. Martinez1, A. Motamedi1, J.V. Anzola1, T.C. Gahman1, K. Oegema1,2, A.K. Shiu1, A. Desai1,2; 1Ludwig Institute for Cancer Research, La Jolla, CA, 2Cellular and Molecular Medicine, University of California, San Diego, La Jolla, CA

B207/P2034 Characterization of controlled centrosome amplification in the endoreplicating giant cells of the placenta. M.B. Stratton1, T. Stearns1,2; 1Biology, Stanford University, Stanford, CA, 2Genetics, Stanford University School of Medicine, Stanford, CA

B208/P2036 Centrosomes coordinate the specification of germ cells. J. Fang1, L.R. Lym1, D.A. Lent1; 1Department of Cell Biology, Emory University School of Medicine, Atlanta, GA

B210/P2037 PLP Promotes Cytoskeletal Organization to Induce Germ Cell Formation. J. Fang1, D.A. Lent1; 1Department of Cell Biology, Emory University, Atlanta, GA

B211/P2038 Asterless is a Polo-like kinase 4 substrate that both activates and inhibits kinase activity depending on its phosphorylation state. C.J. Boese1, J. Nye2, C.J. Boese1, J. Nye2; 1Department of Biology, Santa Clara University School of Medicine, Santa Clara, CA, 2Department of Biology, Stanford University, Stanford, CA

Wednesday Poster Session

Cell Cycle and Chromosome Dynamics 2

B235/P2101 A Defective Aurora Protein Kinase S3 (AURS3) Localizes to Centrosomes and Causes Mitotic Defects in the Presence of Somatic Cells. J. Yang1,2; 1Department of Developmental Biology, University of California, Berkeley, CA, 2Department of Pediatrics, University of California, San Francisco, CA

B236/P2102 The role of microtubule dynamics in mitotic progression in human cells. R. Lahav1, A. Shtutman1, J. Singer2,3; 1Center for Molecular Medicine, University of California San Francisco, San Francisco, CA, 2Department of Biology, Stanford University, Stanford, CA, 3Quantitative Biology, Stanford University, Stanford, CA

B237/P2103 The effect of ROCK inhibition on centrosome amplification. A. Stukenbrok2,3, A. Stukenbrok1, H. Meinke1, S. Grech1,2,4; 1Mechanobiology Laboratory, Imperial College London, London, UK, 2Center for Regenerative Medicine, King’s College London, London, UK, 3Institute of Genetics, University of Cambridge, Cambridge, UK, 4Imperial College School of Medicine, London, UK

B238/P2104 Centrosome organization and function in Drosophila. M. Ammerer1, P. Hebert2,3, R. Goll1, A. Kostic1,4, S. Brown1,5; 1Division of Biological Sciences, University of California San Diego, La Jolla, CA, 2Department of Biology, Wake Forest University, Winston-Salem, NC, 3Department of Molecular Biology, University of Wisconsin-Madison, Madison, WI, 4National Institutes of Health, Bethesda, MD, 5Department of Biology, Washington University in St. Louis, St. Louis, MO
B221/P2048 Spindle turbulence and mitotic cell motility in the absence of microtubule clustering. C.L. Huenschen1,2, V. Galstyan3, R. Phillips4, S. Dumont5,6,7; 1Cell and Tissue Biology, UCSF, San Francisco, CA, 2Biomedical Sciences Graduate Program, UCSF, San Francisco, CA, 3Biochemistry and Molecular Biophysics Graduate Program, Caltech, Pasadena, CA, 4Department of Physics, Caltech, Pasadena, CA, 5Div. of Biology and Biological Engineering, Caltech, Pasadena, CA, 6Cellular and Molecular Pharmacology, UCSF, San Francisco, CA

B222/P2049 A physical model for fission yeast mitosis: from spindle formation through chromosome segregation. C. Edelmaier1,2, A. Lamson1, Z.R. Gergely1, S. Ansari8, R. Blackwell1, J.R. McIntosh1, M.A. Glaser1, M.D. Bettehorn1,2; 1Department of Cell and Developmental Biology, University of Colorado Anschutz Medical Campus, Aurora, CO, 2Department of Physics, University of Colorado Boulder, Boulder, CO, 3Department of Molecular, Cellular, and Developmental Biology, University of Colorado Boulder, Boulder, CO

B223/P2050 Keeping mitosis duration constant: Kinesin-6 regulates cell-size-dependent spindle elongation velocity in fission yeast. L. Kruger1, J. Sanchez1, A. Paolotti1, R. Tran1; 1UMR144, Institut Curie, Paris, France

B224/P2051 MYC Dysregulates Mitotic Spindle Function Creating a Dependency on TPX2. J. Rohrberg1, A. Corella1, M. Jokisch1, M. Jugué1,2,3,6, H. Wu1,2,5; 1Melanoma and Developmental Biology, Dana-Farber Cancer Institute, Boston, MA, 2Center for Systems Biology, Harvard University, Cambridge, MA, 3Center for Computational Biology, Simons Foundation, New York, NY, 4Department of Applied Physical Sciences, University of North Carolina, Chapel Hill, NC, 5John A. Paulson School of Engineering and Applied Sciences, Harvard University, Cambridge, MA, 6Center for Molecular and Cellular Biology, Harvard University, Cambridge, MA, 7Institute of Atomic and Molecular Sciences, Academia Sinica, Taipei, Taiwan, 8Courant Institute of Mathematical Sciences, New York University, New York, NY

B225/P2052 Kinesin-8 depolymerizing kinesins and spastin contribute to microtubule array remodeling at mitotic entry in the presence of paclitaxel. J.C. Leung1, L. Cassimere1, 1Biological Sciences, Lehigh University, Bethlehem, PA

B226/P2053 Ultrastructure of k-fibers in 3D-reconstructed mammalian spindles in mitosis. R. Kiewisz1, N. Lindow1, C. Yu1, D.J. Needlemann1, T. Müller-Reichert1; 1Medical Faculty Carl Gustav Carus, Technische Universität Dresden, Dresden, Germany, 2Image Analysis in Biology and Materials Science, Zuse-Institut Berlin, Berlin, Germany, 3Department of Molecular and Cellular Biology, Harvard University, Cambridge, MA

B227/P2054 Defects in efficient chromosome alignment cause chromosomal instability. K. Kuniyasu1, K. Iemura1, K. Tanaka1; 1Department of Molecular Oncology, Institute of Development, Aging and Cancer, Tohoku University, Sendai, Japan

B228/P2055 Mechanisms of force generation between chromosomes and microtubules in the mitotic spindle. M.I. Anjor-Dietrich1, D.J. Needlemann1,2; 1Applied Physics, Harvard University, Cambridge, MA, 2Molecular and Cellular Biology, Harvard University, Cambridge, MA

B229/P2056 Centromere dysfunction promotes chromosome mis-segregation by compromising centrosome integrity. S. Gemble1, C. Pennerter1, S. Herve1, D. Fachinetti1, R. Basto1; 1UMR144, Institut Curie, PSL Research University, CNRS, Paris, France

B230/P2057 Fluctuations of Microtubule Network in Mouse Oocyte Spindles. C.P. Kelleher1, D.J. Needlemann1; 1Molecular and Cellular Biology, Harvard University, Cambridge, MA

B231/P2058 The balance of counteracting forces via mitotic kinesins controls spindle multi-polarization in tetraploid cells and its subsequent heterogeneity. M. Iimori1, E. Oki1, H. Saeoki1, Y. Maehara2,3; 1Department of Molecular Cancer Biology, Kyushu University, Fukuoka, Japan, 2Departments of Surgery and Science, Kyushu University, Fukuoka, Japan, 3Kyushu Central Hospital, Fukuoka, Japan

B232/P2059 Cortical Pulling Drives Pronuclear Migration and Rotation, and Spindle Positioning and Oscillation. H. Wu1,2, E. Naczokasti1,2, C. Yu1, R. Farhadifar1,2,4, H. Chang4, M.J. Shelley1,2,5; 1Department of Physics, Harvard University, Cambridge, MA, 2Faculty of Arts and Sciences Center for Systems Biology, Harvard University, Cambridge, MA, 3Center for Computational Biology, Simons Foundation, New York, NY, 4Department of Applied Physical Sciences, University of North Carolina, Chapel Hill, NC, 5John A. Paulson School of Engineering and Applied Sciences, Harvard University, Cambridge, MA, 6Center of Atomic and Molecular Sciences, Academia Sinica, Taipei, Taiwan, 7Courant Institute of Mathematical Sciences, New York University, New York, NY

B233/P2060 Characterization of Cks2 Localization and Interaction with Cdk1 in Mitotic Cells of Xenopus laevis Embryos. Z. Lu1, Y. Kim2, J.C. Sandquist1; 1Biology Department, Grinnell College, Grinnell, IA

B234/P2061 Mechanisms of spindle assembly and scaling in Pipid frogs. K. Miller1; 1Cell Physiology and Metabolism, University of Washington School of Medicine, Seattle, WA

B235/P2062 Importin a partitioning to the plasma membrane regulates intracellular scaling. C.W. Brownlee1; 1CDB, University of California, Berkeley, CA

B236/P2063 Cell fate regulation of spindle assembly. A. Bondaz1, P. Meraldi1; 1Molecular and Cell Biology, UC Berkeley, Berkeley, CA

B237/P2064 Accelerated microtubule assembly rates suppress centrosome separation prior to nuclear envelope breakdown. L. Wordeman1, M. Wagenbach1, J. Vicente1, J. Decarreau1; 1Cell Physiology and Metabolism, University of Geneva, Geneva, Switzerland
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B247/P2074 Role of TRIP13 and p34<sup>ccdc</sup> in spindle-assembly checkpoint activation and inactivation. H. Ma<sup>1</sup>, R. Poon<sup>1</sup>; 1Division of Life Science, The Hong Kong University of Science and Technology, Hong Kong, Hong Kong

B248/P2075 Ska-mediated enhancement of Ndc80C-microtubule interaction depends on the Ndc80/Hecl coiled-coil/loop domain rather than the Ndc80/Hecl tail. R. Wimbish<sup>1</sup>, J.E. Miek<sup>2</sup>, J.J. Sanchez<sup>1</sup>, A.A. Jeyaprakash<sup>1</sup>, J.G. DeLuca<sup>3</sup>; 1Biochemistry and Molecular Biology, Colorado State University, Fort Collins, CO, 2Wellcome Trust Centre for Cell Biology, University of Edinburgh, Edinburgh, United Kingdom

B249/P2076 The nanoscale architecture of budding yeast and human kinetochore-microtubule attachments is shaped by different centromeric blueprints. A.A. Kukreja<sup>1</sup>, S. Kavuri<sup>2</sup>, A.P. Joglekar<sup>1,2</sup>; 1Biophysics, University of Michigan, Ann Arbor, MI, 2Cell and Developmental Biology, University of Michigan, Ann Arbor, MI

B250/P2077 chTOG functions at kinetochores to stabilize their attachment to microtubules. J.A. Herman<sup>1</sup>, M. Miller<sup>2</sup>, S. Biggins<sup>2,4</sup>; 1Basic Sciences Division, Fred Hutch Cancer Research Center, Seattle, WA

B251/P2078 Elucidating the role of Bub1 in human checkpoint signalling. C.E. Currie<sup>1</sup>, M. Mora-Santos<sup>1</sup>, C.A. Smith<sup>1</sup>, S.E. McClelland<sup>2</sup>; 1Biochemistry, University of Washington, Seattle, WA, 2Department of Biological Sciences, The university of Minnesota, Minneapolis, MN, 3Chemosome Dynamics Laboratory., RIKEN, Saitama, Japan

B252/P2079 Measuring load-bearing interactions between the Dam1 complex and its multiple binding sites in the Ndc80 complex. R.L. Flores<sup>1</sup>, T.N. Davis<sup>2</sup>; 1Biochemistry, University of Washington, Seattle, WA

B253/P2080 Minimization of cross-talk between Spindle Assembly Checkpoint silencing and error correction. B. Roy<sup>1</sup>, A. Gupta<sup>2</sup>, V. Verma<sup>2</sup>, A. Fontani<sup>1</sup>, A. Sim<sup>1</sup>, A.P. Joglekar<sup>2</sup>; 1CDB, University of Michigan, Ann Arbor, MI, 2Fred Hutchinson Cancer Research Center, Seattle, WA

B254/P2081 ATP deprivation during a prolonged mitosis compromises kinetochrome structure, SAC signalling and cell fate determination. J. Oliveira<sup>1</sup>, A. Santos<sup>1</sup>, C. Ferras<sup>1</sup>; 1CID Lab, IBCM, i3S, Porto, Portugal

B255/P2082 Building a minimal functional kinetochrome: From microtubule to centromere. G. Hamilton<sup>1</sup>, C.L. Asbury<sup>1</sup>, Y. Dimitrov<sup>1</sup>, T.N. Davis<sup>2</sup>; 1Biochemistry, University of Washington, Seattle, WA, 2Physiology and Biophysics, University of Washington, Seattle, WA

B256/P2083 Intrakinetochore tension revisited: insights from large kinetochores. F. Renda<sup>1</sup>, I. Tikhonenko<sup>1</sup>, A. Khodjakov<sup>1</sup>; 1Wadsworth Center, Albany, NY

Science Division, Fred Hutchinson Cancer Research Center, Seattle, WA, 3Department of Biochemistry, University of Washington, Seattle, WA, 4Basic Science Division, HMMI, Seattle, WA

B257/P2084 Haspin and Aurora B kinases activate the metaphase Topoisomerase II checkpoint. N. Pandey<sup>1</sup>, D. Keifenheim<sup>2</sup>, M.M. Yoshida<sup>1</sup>, V.A. Hassebroek<sup>3</sup>, C. Soroka<sup>1</sup>, Y. Azuma<sup>1</sup>, D.I. Clarke<sup>1</sup>; 1Department of Molecular Biosciences, The university of Kansas, Lawrence, KS, 2Department of Biological Sciences, The university of Minnesota, Minneapolis, MN, 3Chromosome Dynamics Laboratory., RIKEN, Saitama, Japan

B258/P2085 Mitotic Errors Initiate a Diverse Spectrum of Simple and Complex Genomic Rearrangements. P. Ly<sup>1</sup>, S.F. Brunner<sup>2</sup>, O. Shoshani<sup>1</sup>, D. Kim<sup>2</sup>, P.J. Campbell<sup>2</sup>, D.W. Cleveland<sup>1</sup>; 1Department of Cellular and Molecular Medicine, University of California San Diego, Ludwig Institute for Cancer Research, La Jolla, CA, 2Wellcome Trust Sanger Institute, Hinxton, Cambridgeshire, United Kingdom

B259/P2086 Membrane fluidity facilitates segregation of nuclear envelope-anchored chromosome in budding yeast. R. Chen<sup>1</sup>; 1Institute of Molecular Biology, Academy Sinica, Taipei, Taiwan

B260/P2087 DNA-dependent innate immune signaling by cGAS controls mitotic cell death and the response to taxol. C. Zierhut<sup>1</sup>, N. Yamaguchi<sup>2</sup>, H. Funabiki<sup>1</sup>; 1Laboratory of Chromosome and Cell Biology, The Rockefeller University, New York, NY, 2Laboratory of Systems Cancer Biology, The Rockefeller University, New York, NY

B261/P2088 Phase separation by the chromosome passenger complex underlies the biophysical organization of the inner centromere. P. Trivedi<sup>1</sup>, T. Stukenberg<sup>2</sup>; 1Department of Cell Biology, University of Virginia, Charlottesville, VA, 2Department of Biochemistry and Molecular Genetics, University of Virginia, Charlottesville, United States

B262/P2089 The Chromosome Passenger Complex phosphorylates SAF-A/hnRNP-U to mediate clearance of nuclear, chromatin-associated RNAs during prometaphase. J.A. Sharp<sup>1,2</sup>, M.D. Blower<sup>1,2</sup>; 1Department of Molecular Biology, Massachusetts General Hospital, Boston, MA, 2Department of Genetics, Harvard Medical School, Boston, MA

B263/P2090 A Human Artificial Chromosome (HAC) Assay for Systematic Analysis of Compounds Specifically Targeting Telomeres and Telomerase for Clinical Implications in Cancer Therapy. M. Kostagiolas<sup>1</sup>, C.A. Smith<sup>1</sup>, S. Mora-Santos<sup>1</sup>, C.A. Smith<sup>1</sup>, S.E. McClelland<sup>2</sup>; 1Biochemistry, University of Washington, Seattle, WA, 2Department of Developmental Biology, University of Washington, Seattle, WA

B264/P2091 Compounds Specifically Targeting Telomeres and Telomerase for Clinical Implications in Cancer Therapy. M. Kostagiolas<sup>1</sup>, C.A. Smith<sup>1</sup>, S. Mora-Santos<sup>1</sup>, C.A. Smith<sup>1</sup>, S.E. McClelland<sup>2</sup>; 1Biochemistry, University of Washington, Seattle, WA, 2Department of Developmental Biology, University of Washington, Seattle, WA

B265/P2092 Building a minimal functional kinetochrome: From microtubule to centromere. G. Hamilton<sup>1</sup>, C.L. Asbury<sup>1</sup>, Y. Dimitrov<sup>1</sup>, T.N. Davis<sup>2</sup>; 1Biochemistry, University of Washington, Seattle, WA, 2Physiology and Biophysics, University of Washington, Seattle, WA

B266/P2093 CDK1 mediated phosphorylation of the Dam1 complex enhances kinetochrome-microtubule interactions. A. Guinier<sup>2</sup>, m. Miller<sup>1</sup>, J. kim<sup>1</sup>, T.N. Davis<sup>2</sup>, S. Biggins<sup>2,4</sup>; 1Molecular and Cellular Biology, University of Washington, Seattle, WA, 2Basic
Oncogenes and Tumor Suppressors 2

B273/P2099 Regulation of cell differentiation by FXR and LXR. T. Fujino1, R. Kato1, M. Hayakawa1; 1School of pharmacy, Tokyo university of pharmacy and life sciences, Tokyo, Japan

B274/P2100 α-Actinin-4 promotes the progression of castration-resistant prostate cancer. S. Park1; J. Ko2; 1Life Science, Korea University, Seoul, South Korea

B275/P2101 Primate-specific mir-944 activates p53-dependent tumor suppression in human colorectal cancers. Y. Kim1, S. Jin1, S. Kim1; 1Department of Biology, Kyung Hee University, Seoul, South Korea

B276/P2102 Influence of nucleoside analogue FTC-induced DNA replication stress on mutant p53-mediated cell fate decision. T. Wakasa1,2, M. Iimori1, Y. Kataoka3, H. Saeki1, E. Ok1, Y. Maehara2, H. Kita1; 1Molecular Cancer Biology, Graduate School of Pharmaceutical Sciences, Kyushu University, Fukuoka, Japan, 2Department of Surgery and Science, Graduate School of Medical Sciences, Kyushu University, Fukuoka, Japan, 3Drug Discovery & Development I, Discovery and Preclinical Research Division, Taiho pharmaceutical Co., Ltd., Tsukuba, Japan, 4Kyuho Central Hospital of the Mutual Aid Association of Public School Teachers, Fukuoka, Japan

B277/P2103 Low expression NUDTS induces cellular dysfunction in breast cancer cell lines. H. Zhang1, J. Zhang1, J. Li1, J. Cai1; 1Department of Molecular Biology, The OH Key Laboratory of Geriatrics, Beijing Hospital, Beijing, China, 2Graduate School of Peking Union Medical College and CAMS, Beijing, China

B278/P2104 Up-regulation of HOXB cluster genes are epigenetically regulated in tamoxifen-resistant MCF7 breast cancer cells. J. Lee1, S. Yang2, H. Hur2, J. Oh1, M. Kim1; 1Department of Anatomy, Yonsei University College of Medicine, Seoul, South Korea, 2Department of Surgery, National Health Insurance Service Ilsan Hospital, Goyang, South Korea

B279/P2105 Novel long non-coding transcript in the Nbraa3 locus is associated with leukemia through modulation of Nbraa3. A. Congrains-Castillo1, F.S. Niemann1, S.T. Saad1; 1Hematology and Hemotherapy Center, Unicamp, Campinas, Brazil

B280/P2106 Characterization of the PICALM interacting mitotic regulator (PIMREG) as a molecular marker of tumor progression in LGG and GBM. R.B. Serafim1, V.C. Arfelli1, V. Valente2, L.F. Archangelo1; 1Department of Cellular and Molecular Biology and Pathogenic Bioagents, Ribeirão Preto Medical School, University of São Paulo (FMARP-USP), Ribeirão Preto, Brazil, 2School of Pharmaceutical Sciences, São Paulo State University (UNESP), Araraquara, Brazil

Monday Poster Session

B281/P2107 Regulation of cancer cell proliferation and telomerase activity by Rin1 upon IGF-1 stimulation. P.J. Hambleton1, M.A. Barbieri2,3,4; 1Department of Biological Sciences, Florida International University, Miami, FL, 2Biomolecular Sciences Institute, Florida International University, Miami, FL, 3International Center of Tropical Botany, Florida International University, Miami, FL, 4Fairchild Tropical Botanic Garden, Coral Gables, FL

B282/P2108 Epigenetic Regulation of Chromatin Structure and Genome Stability. M.M. Pruitt1,2, A.L. Manning1; 1Biology and Biotechnology, Worcester Polytechnic Institute, Worcester, MA

B283/P2109 DMD transcription profiling in spontaneously developed tumor from three mdr1 mice revealed extensive intron retentions and Dp71 isoform expression. E.T. Niba1,2, N. Nishimura2, S. Takefuji3, K.M. Thwin1, N. Yamamoto4, H. Awan5, S. Fukushima1, K. Itoh6, H. Nishio2, M. Matsuo2; 1Department of Epidemiology, Kobe University Graduate School of Medicine, Kobe, Japan, 2Department of Medical Rehabilitation, Kobe Gakuin University, Kobe, Japan, 3Department of Pediatrics, Kobe University Graduate School of Medicine, Kobe, Japan, 4Department of Hematology and Oncology, Kobe Children's Hospital, Kobe, Japan, 5Department of Pharmaceutical Science, Kobe Gakuin University, Kobe, Japan, 6Department of Pathology and Applied Neurobiology, Kyoto Prefectural University of Medicine, Graduate School of Medical Science, Kobe, Japan

B284/P2110 Role of Metadherin in correlation with NF-κB in Inflammatory Breast Cancer. G. Ortíz-Soto1, J.J. Suárez-Arroyo2, M.M. Martínez-Montemayor2; 1Department of Biochemistry, Universidad Central del Caribe - School of Medicine, Bayamon, PR

B285/P2111 Actively transcribed genes require mRNA modification for sustained expression. K. Somasundaram1; 1Microbiology and Cell Biology, Indian Institute of Science, Bangalore, India

B286/P2112 Fyn increases the aggressiveness of brain tumors. A. Comba1, P.J. Dunn2, A.E. Argento3, P. Kadiyal1,2, P.S. Patel1,2, M.S. Alghamri1,2, F.J. Nunez-Aguilera1,2, M.G. Castro1,2, P.R. Lowenstein1,2; 1Dept. of Neurosurgery, University of Michigan Medical School, Ann Arbor, MI, 2Dept. of Cell and Developmental Biology, University of Michigan Medical School, Ann Arbor, MI

B287/P2113 Taxane resistance in breast cancer controlled by the APC tumor suppressor. E. Astarita1, M. Dieringer2, M.T. Nair1, J.R. Prosperi1,2; 1Biochemistry and Harper Cancer Research Institute, University of Notre Dame, Notre Dame, IN, 2Biological Sciences and Bioinformatics, Indiana University - South Bend, South Bend, IN, 3Biochemistry and Molecular Biology, Indiana University School of Medicine, South Bend, IN, 4Biological Sciences and Harper Cancer Research Institute, University of Notre Dame, Notre Dame, IN

B288/P2114 The cytosolic N-terminus motif of MAL2 is responsible for its tumor suppressor activity in hepatocellular carcinoma. A. López-Coral1, G.J. Del Vecchio1, L.E. Unsworth1, P.L. Tuma1; 1Biology, The Catholic University of America, Washington, DC
B296/P2122 Epigenetic Regulation by Interferon Regulatory Factor 4 in Melanoma Cells. U. Sobhiafshar1, N. Yildiz1, E. Yilmaz2, M.C. Ayhan3, C. Yerinde2, N. Emre1, 1Molecular Biology and Genetics, Bogazici University, Istanbul, United States
B297/P2123 EGCG induces apoptosis and reduces DNM1L and HDACs levels in leukemia xenograft model. M.C. Alvarez1, C.O. Torelli1, K.P. Ferro2, S.O. Saad3, 1Hematology and Hemotherapy Center, University of Campinas, UNICAMP, Campinas, Brazil
B298/P2124 Refold & Restoring Function to Mutant p53: HDAC Inhibitor MS275 Partially Restores Activity to R175H Mutant p53. M.A. Baatz1, B.M. Flores3, A.S. Fascul3, K.J. Levy3, E.E. Hull1, 1Biomedical Sciences, Midwestern University, Glendale, AZ, 2Department of Microbiology Immunology, Midwestern University, Glendale, AZ
B299/P2125 Genome-wide transcriptional activation screen to identify genetic interactions in glioma. M. Ventosa Rosales1,2, F. Nunez-Aguilera3,2, P. Kadiyal1,2, M.G. Castro1,2, P.R. Lowenstein1,2, 1Neurosurgery, University of Michigan, Ann Arbor, MI, 2Cell and Developmental Biology, University of Michigan, Ann Arbor, MI
B300/P2126 Cytoskeletal disruption regulates cellular senescence through activation of the mTOR signaling pathway. D. Kim1, D.M. Helfman1, 1Department of Biological Sciences, Korea Advanced Institute of Science and Technology, Daejeon, South Korea
B301/P2127 Regulation of STAT-3 activity by interaction of PML/p53 in glioblastoma cells. J. Lim1,2, H. Park1,2, S. Hyun1, Y. Choi1, 1Tissue Injury Defense Research Center, Ewha Womans University, Seoul, South Korea, 2Department of Cell Biology, Ewha Womans University, Seoul, South Korea
B302/P2128 Characterizing the role of Filopodia in Triple Negative Breast Cancer (TNBC). D. Lanns1, J. Dalton1,2, L.M. Galli1, L.W. Burris1, 1Biology, San Francisco State University, San Francisco, CA
B303/P2129 A microcarrier-based spheroid 3D invasion assay for monitoring cell movement in extracellular matrix in vitro. H. Liu1, T. Lu1, G. Kremers2, A.L. Seynhaeve3, T.L. ten Hagen1, 1Department of Surgery, Erasmus Medical Center, Rotterdam, Netherlands, 2Department of Pathology, Erasmus Medical Center, Rotterdam, Netherlands
B304/P2130 E-cadherin is an invasion suppressor and metastasis promoter in multiple models of breast cancer. V. Padmanaban1, A.J. Ewald1, 1Cell Biology, Johns Hopkins University School of Medicine, Baltimore, MD
B305/P2131 E-cadherin-dependent recruitment of the non-receptor tyrosine phosphatase PTPN14 prevents cell migration, invasion and metastasis induced by cavelin-1 phosphorylation on tyrosine 14. N.I. Diaz-Valdivia1, J. Diaz1,2, P. Contreras1, A. Campos1,2, V. Rojas-Celis1, L. Lobos-Gonzalez1, V.A. Torres1, V.I. Perez1, B. Freil1, L. Leyton1, A.F. Quest1, 1Cellular Communication Laboratory, University of Delaware, Newark, DE
B306/P2132 The minimal molecular requirements for epithelial dissemination: role of the Twist1-PKD1 axis. D. Georges1, K. Coats1, O.K. Sirka1, A. Choi1, G. Frid1, N.M. Neumann1, A.J. Ewald1, 1Cell Biology, Johns Hopkins University School of Medicine, Baltimore, MD
B307/P2133 Epithelial-to-Mesenchymal Transition and Giant Cancer Cell Formation in Lung Cancer Cells Exposed to Electronic Cigarettes. A. Zahedi1, R. Phandthong1, A. Chaili1, V. On2, G. Remark1, P. Talbot1, 1Molecular, Cell and Systems Biology, University of California, Riverside, Riverside, CA, 2Bioengineering, University of California, Riverside, Riverside, CA, 3Electrical Engineering, University of California, Riverside, Riverside, CA
B308/P2134 Overexpression of the VRK1 protein kinase, which is associated with breast cancer progression, induces a mesenchymal to epithelial transition in mammary epithelial cells. A.M. Mon1, 1Trakman1, 1Biophysics & Molecular Biology, Medical University of South Carolina, Charleston, SC
B309/P2135 Circulating tumor cells display epithelial-to-mesenchymal transition, loss of MHCI expression, and differential cytokine secretions. J. Huaman1,2, M. Naidoo1,2, K. Ohaegbulam1, X. Zang1, O. Ogwunobi1,2, 1Biology, The Graduate Center, City University of New York, New York, NY, 2Biology, Hunter College, City University of New York, New York, NY, 3Medicine, Albert Einstein College of Medicine, New York, NY, 4Medicine, Weill Cornell Medical College, Cornell University, New York, NY
B310/P2136 Cell-cell contact induced EGFR signaling promotes the survival and growth of highly metastatic tumor cell clusters. E.D. Wrenn1,2, B.M. Moore1,2, M.A. McInerney1,2, A. Yamamoto1,2,3, A.J. Thomas1,2, E. Greenwood1,2, K.J. Cheung1,2,4, 1Neurosurgery, University of California, Riverside, Riverside, CA, 2Medical and Cellular Biology Graduate Program, University of California, Riverside, Riverside, CA, 3School of Medicine, Weill Cornell Medical College, Cornell University, New York, NY, 4Division of Medical Oncology, University of Washington, Seattle, WA
B311/P2137 TYPE7: a novel peptide that interacts with EphA2 receptor and reduces cell migration. D.S. Alves1, J.M. Westerfield1, X. Shi2, V.P. Nguyen1, K.M. Stefanaki3, A.W. Smith4, F.N. Barrera1, 1BCMB, University of Tennessee, Knoxville, TN, 2Department of Chemistry, Akron University, Akron, OH
B312/P2138 The role of Quinscine Sulfonylhydrid Oxidase 1 (SQX01) in glioblastoma cell proliferation, migration and invasion. R. Dutt1, C. Thorpe1, D.S. Galle1, 1Chemistry & Biochemistry, University of Delaware, Newark, DE

center for Studies on Exercise, Metabolism and Cancer (CEMC), Advanced Center for Chronic Diseases (ACCDIS), School of Medicine, Universidad de Chile, Santiago, Chile, 2Institute for Research in Dental Science, Faculty of Dentistry, Universidad de Chile, Santiago, Chile, 3Fundación Ciencia Vida, Santiago, Chile, 4Inus University, Institute of Biochemistry and Biophysics, Oregon State University, Corvallis, OR

Monday Poster Session

Tumor Invasion and Metastasis 2

B297/P2115 Identifying a role for Notch signaling in epithelial tumorigenesis using Drosophila follicle cells. A.M. Jevit1, W. Deng1, 1Biological Sciences, Florida State University, Tallahassee, FL
B298/P2116 Ras Suppressor 1 (Rsu1) regulates both integrin adhesion and PDGF Receptor profile to integrate cell morphology with Ras-dependent signaling in fibroblasts and melanoma cells. J.L. Kradmas1, S.M. Pronovost1, M.C. Beckerle1, S.L. Holmen1, M.W. VanBracklin2, M. Yoshigi1, 1 Oncological Sciences, Huntsman Cancer Institute at the University of Utah, Salt Lake City, UT, 2 Biology, Huntsman Cancer Institute at the University of Utah, Salt Lake City, UT, 3 Pediatrics, Huntsman Cancer Institute at the University of Utah, Salt Lake City, UT
B299/P2117 Studies on post-transcriptional gene regulation in cancer progress. W. Sovijit1,2, K. Nagaoka1,2, G. Wataneb1,2, 1UGSVS, Gifu University, Gifu, Japan, 2Veterinary Science, Tokyo University of Agriculture and Technology, Tokyo, Japan
B300/P2118 Planar cell polarity protein Vangl1 is targeted by Human Papillomavirus E7 oncoprotein. O. Basukala1, A. Zine el Abidine1,2, S. Mittal1, P. Massimi1, L. Banks1, 1Tumour Virology, International Center for Genetic Engineering and Biotechnology, TRIESTE, Italy, 2Department of Molecular Genetics and Microbiology, University of New Mexico, Albuquerque, NM, 3RD department, Croydon Health Services, Croydon CR7 7YE, United Kingdom
B301/P2119 Combination therapy with PLX4720 and Ponatinib induces synergistic growth arrest in vitro and delay tumor formation in thyroid cancer xenograft model. S.M. Kumar1,2, C. Ghosh1, Y. Kushchayaeva1, K. Gaskins1, M. Boufraqech2, D. Wei1, S. Gara1, L. Zhang1, E. Kebebew1, 1Laboratory of Genetics and Genomics, National Institute on Aging, Bethesda, MD, 2Endocrine oncology, National Cancer Institute, Bethesda, MD, 3Department of Surgery, Stanford University, Stanford, CA
B302/P2120 CRNDE is involved in the cell cycle progression, proliferation rate and microtubular cytoskeleton regulation. A. Balcerak1, M. Kulirczak1, L. Buksa1, D. Cysewski1, T. Rubel1, E.A. Graybowska1, A. Dansonka-Mieczkowska1, J. Kupryjanczyk1, L. Szafron1, 1Department of Molecular and Translational Oncology, Maria Sklodowska-Curie Institute-Oncology Center, Warsaw, Poland, 2Department of Immunology, Maria Sklodowska-Curie Institute-Oncology Center, Warsaw, Poland, 3Mass Spectrometry Laboratory, Institute of Biochemistry and Biophysics, PAS, Warsaw, Poland, 4Institute of Radioelectronics and Multimedia Technology, Warsaw University of Technology, Warsaw, Poland, 5Department of Pathology and Laboratory Diagnostics, Maria Sklodowska-Curie Institute-Oncology Center, Warsaw, Poland
B303/P2121 Myc and AMPK regulate TDG-mediated DNA demethylation manipulating lipogenesis and cell proliferation in cancer. J. Yan1, C. Lai1, L. Wang2, J. Peng3, 1Life Sciences, National Cheng Kung University, Tainan, Taiwan, 2Public Health, National Cheng Kung University, Tainan, Taiwan

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B322/P2148 Role of receptor sialylation by ST6Gal-I in promoting epithelial to mesenchymal transition and metastasis. C.M. Brittain1, A. Chakraborty1, A. Holdbrooks1, S.L. Bells1; 1Cell, Developmental and Integrative Biology, University of Alabama at Birmingham, Birmingham, AL

B323/P2149 Long non-coding RNA HOTAIR Promotes Invasion of Breast Cancer Cells Through Chondroitin Sulfotransferase CHST15.
Y. Wang1,2, L. Liu1, P. Lin1, X. Ziang1, W. Cheng1, S. Liu1, Y. Hung1, S. Wang1,2,5; 1Center for Molecular Medicine, China Medical University Hospital, Taichung City, Taiwan, 2Graduate Institute of Biomedical Sciences, China Medical University, Taichung City, Taiwan, 3Department of Surgery, China Medical University Hospital, Taichung City, Taiwan, 4Department of Environmental Health, University of Cincinnati, Cincinnati, OH, 5Department of Cancer Biology, University of Cincinnati, Cincinnati, OH, 6Department of Biotechnology, Asia University, Taichung City, Taiwan

B324/P2150 Cell cycle inhibitors restrict tumour growth and inhibit metastasis in CAM model of Neuroblastoma. R.R. Swadi1,2, D. Moss1; 1Cellular and Molecular Physiology, University of Pittsburgh, Pittsburgh, PA

B325/P2151 Factors influencing the ability of the transcription factor Twist1 to initiate the epithelial-mesenchymal transition, a hallmark of carcinoma metastasis. I.K. Hood-Degrenier1, A. Dervish1, R. Amor1, R. Metalli1; 1Biology, Worcester State University, Worcester, MA

B326/P2152 Alpha-mangostin inhibits the migration and invasion of A549 lung cancer cells. T.T. Phan1, T. Khara1; 1Life and Environmental Engineering, The University of Kitakyushu Faculty of Environmental Engineering, Kitakyushu, Japan

B327/P2153 Exploring the therapeutic potential of lovastatin in preventing metastatic profiles of A549 human non-small cell lung cancer cells. J. Wang1, C. Wu1; 1School of Pharmacy, Taipei Medical University, Taipei City, Taiwan

B328/P2154 Significance of combined epigenetic treatment with HMT and HDAC inhibitors for acute promyelocytic leukemia cell differentiation and apoptosis. R. Navakauskiene1, A. Vitkeviciene1, G. Skiautyt1, G. Valiuilien1, A. Zucenka1, E. Gineikiene1, M. Stokus1, L. Griskevicius2, D. Matuzevicius3, D. Navakauska1, V. Borutinskaite1; 1Life Sciences Center, Department of Molecular Cell Biology, Vilnius University, Vilnius, Lithuania, 2Institute of Molecular Biology, Vilnius University Hospital Santaros Klinikos, Vilnius, Lithuania, 3Electronics Faculty, Electronic Systems Department, Vilnius Gediminas Technical University, Vilnius, Lithuania

B329/P2155 Inhibition of euchromatic histone-lysine N-methyltransferase 2 sensitizes breast cancer cells to TRAIL through ROS-mediated

Cancer Therapy 2

B330/P2156 Reactive oxygen species-dependent HSP90 cleavage by histone deacetylase inhibitor efficiently overcomes gefitinib resistance in non-small cell lung cancer cells via degradation of client proteins. S. Park1, D. Kim1, H. Jung1, J. Kim1, J. Hwang1,2; 1Asan Institute for Life Sciences, Asan Medical Center, Seoul, South Korea, 2Department of Convergence Medicine, University of Ulsan College of Medicine, Seoul, South Korea

B331/P2157 Inhibition of euchromatic histone-lysine N-methyltransferase 2 (EHMT2) induces autophagy-mediated cell death and TNF α-mediated necroptosis in cancer cells. V. Jung1, S. Park1, D. Kim1, J. Hong1, J. Hwang1,2; 1Asan Institute for Life Sciences, Asan Medical Center, Seoul, South Korea, 2Department of Convergence Medicine, University of Ulsan College of Medicine, Seoul, South Korea

B332/P2158 Diverse slow dividing cell states contribute to DNA damage resistance. J. Stewart-Onstein1, J. Cheng2, G. Lahav3; 1Systems Biology, Harvard Medical School, Boston, MA, 2Computational Systems Biology, University of Pittsburgh Medical School, Pittsburgh, PA

B333/P2159 A blood circulation-prolonging peptide for therapeutic ferritin nanoparticle identified through phage display. S. Rui1, J. peipei2, B. yunpeng2, Q. jieying3, W. zending4; 1Life Sciences, University of Science and Technology of China, Hefei, China, 2National Engineering Research Center for Tissue Restoration and Reconstruction, South China University of Technology, Guangzhou, China, 3School of Medicine, South China University of Technology, Guangzhou, China

B334/P2160 Mutant KRAS/BRAF Reprograms the Enhancer Landscape via GATA1 to Drive Chemoresistance. R. Wu1, Q. Nie1, Z. Wang1, R.B. Diasio2; 1Department of Molecular Pharmacology and Experimental Therapeutics, Mayo Clinic, Rochester, MN

B335/P2161 Combined nanotherapy based on Cisplatin and MAPK, MEK/ERK inhibitors for colorectal cancer. B.A. Cisterna1, C. Vilos2; 1Facultad de Medicina, Universidad Andres Bello, Santiago, Chile, 2Center for the Development of Nanoscience and Nanotechnology, Santiago, Chile

B336/P2162 The Effect of Ack1 Overexpression on the Susceptibility of Lung Cancer Cell Lines to EGFR-Inhibiting Antineoplastic Drugs. A.L. Guca1, A. Sarmiento1, L. Nnadi1, P. Feiszli2; 1Biology, Farmingdale State College, Farmingdale, NY, 2Biomedical Sciences, LIU Post, Brookville, NY
Epigenetics and Chromatin Remodeling

B349/P2174 Revealing the Histone Post-translational Modification Panorama of ALS. M.P. Torrente; 1Chemistry, Brooklyn College, City University of New York, Brooklyn, NY.

B350/P2175 Environmental Toxins Influence Histone Post-Translational Modification Landscapes in ALS Cell Models. S.N. Cobos; 1, S.A. Bennett; 1,2, M.P. Torrente; 1,2, 3; 1Chemistry, The Graduate Center of the City University of New York, New York, NY, 2Chemistry, Brooklyn College, New York, NY, 3Biochemistry, The Graduate Center of the City University of New York, New York, NY, 4Biology, The Graduate Center of the City University of New York, New York, NY.

B351/P2176 Single-Molecule Imaging Reveals Interdependent Dynamics of Chromatin Remodeler And Transcription Factor at yeast CUP1 promoter in response to heavy metal stress. G.D. Mehta; 1, D.A. Balf; 1, P. Eriksson; 1, R. Chere'li; 1, D. Clark; 1, J.G. McNally; 1, T.S. Karpova; 1, CCR/LRBE Optical Microscopy Core, National Cancer Institute, National Institutes of Health, Bethesda, MD, Division of Developmental Biology, Eunice Kennedy Shriver National Institute for Child Health and Human Development, National Institutes of Health, Bethesda, MD, Institute for Soft Matter and Functional Materials, Helmholtz Center Berlin, Berlin, Germany.

B352/P2177 Identification of nutrient metabolites capable of altering the epigenetic status at specific loci. K. Hayakawa; 1, S. Tanaka; 1, Department of Animal Resource Sciences, The University of Tokyo, Tokyo, Japan.

B353/P2178 Nuclear Pyruvate Dehydrogenase Controls the Zygotic Genome Activation through Regulating Acetyl-CoA Generation in Pig. W. Zhou; 1, Y. Ni; 1, Z. Nie; 1, K. Shin; 1, Y. Kim; 1, X. Cui; 1, Animal Science, Chungbuk National University, Cheongju, South Korea.


Monday Poster Session

B356/P2181 Analysis of resistance mechanism in different radiations by using sir 2, 4, 6 deletion strain. M. Kandala; 1, A. Yagiashita; 1, W. Kobayashi; 1, M. Tanaka; 1, M. Hatashita; 1, H. Uchida; 1, M. Oki; 1, 2; 1Dept. Applied Chem. Biotech Grad. Eng., University of Fukui, Fukui, Japan, 2Takefu High School, Takefu, Japan, 3Fujishima High School, Fukui, Japan, 4Res. and Dev. Dept., The WAKASA WAN Energy Research Center, Tsuruga, Japan, 5Life Science Innovation Center, Univ. Fukui, Fukui, Japan.

B357/P2182 The underlying mechanism of glaucular cell-specific gene expression in carnivorous plants. N. Araki; 1, Y. Ohno; 1, T. Ohyama; 1, Biology, Waseda University, Tokyo, Japan.

B358/P2183 Epigenetics: Use of C. elegans to Examine How a Glucose Diet Impacts Transgenerational Phenotypes. M.A. Ruiz; 1, S. Nahari; 1, Padilla; 1, Department of Biological Sciences, University of North Texas, Denton, TX.
B375/P2199 NEToxis proceeds via a defined series of cytoskeleton and endomembrane disassembly events including PAD4-mediated chromatin decondensation and nuclear envelope rupture. H.R. Thiam1, S.L. Wong1,2, R. Qi1, M. Kitt苕i1, A. Vahab1i11i1, R.D. Goldman1, D.D. Wagner2,3, C.M. Waterman1; 1Cell Biology and Physio1ogy Center, National Heart Lung and Blood Institute, National Institute of Health, Bethesda, MD, 2Department of Pediatrics, Harvard Medical School, Boston, MA, 3PMM, Boston Children’s Hospital, Boston, MA, 4Department of Cell and Molecular Biology, Northwestern University Feinberg School of Medicine, Chicago, IL

B376/P2200 Local nuclear deformation in response to transient tensile stress can cause membrane rupture. Q. Zhang1, A.C. Tamashunas1, M. Torbati1, A. Agrawa1, R.B. Dickinson1, J. Lammerding1, T.P. Lele1; 1Department of Chemical Engineering, University of Florida, Gainesville, FL, 2Department of Mechanical Engineering, University of Houston, Houston, TX, 3Weill Institute for Cell and Molecular Biology, Cornell University, Ithaca, NY

B377/P2201 Nuclear envelope assembly defects link mitotic errors to chromothripsis. S. Liu1,2, M. Kwon1,2,3, M. Mannino1,2,3, N. Yang1, F. Renda4, A. Khodjakov5, D. Pellman1,2,3, Howard Hughes Medical Institute, Chevy Chase, MD, 1Department of Pediatric Oncology, Dana-Farber Cancer Institute, Boston, MA, 4Department of Cell Biology, Harvard Medical School, Boston, MA, 5New York State Department of Health, Wadsworth Center, Albany, NY

B378/P2202 Identifying mechanisms for nuclear envelope sealing. I. Lee1,2, E. Stokasimov1,2, E. Jacob1, D. Pellman1,2,3, Pediat1c Oncology, Dana-Farber Cancer Institute, Boston, MA, 1Department of Cell Biology, Harvard Medical School, Boston, MA, 2Howard Hughes Medical Institute, Chevy Chase, MD, 3Medical Oncology, Dana-Farber Cancer Institute, Boston, MA

B379/P2203 NuMA plays an spindle-independent role in the formation of a single nucleus after mitosis. A. Serra-Maquades1, D. Hintzen1, S. Dumont1,2, Cell and Tissue Biology, University of California San Francisco, San Francisco, CA, 2Cellular and Molecular Pharmacology, University of California San Francisco, San Francisco, CA

B380/P2204 The regulation of nuclear remodelling at mitotic exit. G. Dey1, S. Bruderer1, M. Balsubramanian1, W. Kukulski1, B. Baum2; 1MRC Lab for Molecular Cell Biology, University College London, London, United Kingdom, 2Imperial College London, London, United Kingdom, 3Warwick Medical School, University of Warwick, Warwick, United Kingdom, 4MRC Lab for Molecular Biology, Cambridge, United Kingdom

B381/P2205 Effects of osmotic forces on nuclear size and shape in Schizosaccharomyces pombe. P. Real Calderon1, F. Chang1; 1Cell and Tissue Biology, University of California San Francisco, San Francisco, CA

The Nuclear Envelope

B373/P2197 Proteomics analysis of mesenchymal cells reveals novel nuclear envelope proteins and suggests new functions for the nuclear pore complex and lamina. L. Cheng1, S. Baboo1, L. Brusman1, M. Martinez-Bartolome1, C. Lindsay1, X. Zhang1, J. Yates3, L. Gerace1; 1Molecular Medicine, The Scripps Research Institute, La Jolla, CA

B374/P2198 Barrier to autointegration factor (BAF) regulates the cellular response to nuclear rupture. C.T. Halfmann1, R.M. Sears1, L. Aman1, Q. Zhang1, A. Katiyar1, C.S. O’Bryan1, T.E. Angelini1,2, T.P. Lele1, K.J. Roux1,2; 1Enabling Technologies Group, Sanford Research, Sioux Falls, SD, 2Department of Mechanical and Aerospace Engineering, University of Florida, Gainesville, FL, 3Department of Chemical Engineering, University of Florida, Gainesville, FL, 4Department of Biomedical Engineering, University of Florida, Gainesville, FL, 5Institute for Cell and Tissue Science and Engineering, University of Florida, Gainesville, FL, 6Department of Pediatrics, University of South Dakota, Sioux Falls, SD

B376/P2191 Functional relevance of CTD-mediated phase separation in transcription. P. Quintero-Cadena1, P.W. Sternberg1; 1Biological and Biophysical Engineering, California Institute of Technology, Pasadena, CA

B380/P2204 The regulation of nuclear remodelling at mitotic exit. G. Dey1, S. Bruderer1, M. Balsubramanian1, W. Kukulski1, B. Baum2; 1MRC Lab for Molecular Cell Biology, University College London, London, United Kingdom, 2Imperial College London, London, United Kingdom, 3Warwick Medical School, University of Warwick, Warwick, United Kingdom, 4MRC Lab for Molecular Biology, Cambridge, United Kingdom

B381/P2205 Effects of osmotic forces on nuclear size and shape in Schizosaccharomyces pombe. P. Real Calderon1, F. Chang1; 1Cell and Tissue Biology, University of California San Francisco, San Francisco, CA

Monday Poster Session

B382/P2206 Clearance of emerin, a tail-anchored inner nuclear membrane protein, by the rapid ER stress-induced export (RESET) pathway. A.L. Buchwalter1, M.W. Hetzer2; 2Cardiovascular Research Institute, University of California, San Francisco, San Francisco, CA, 3Molecular and Cell Biology Laboratory, The Salk Institute for Biological Studies, La Jolla, CA

B383/P2207 A new player in the orchestra of nuclear movement. C.S. Janota1, J. Costa1, E.R. Gomes1; 1Instituto de Medicina Molecular, Lisboa, Portugal

B384/P2208 LINC mediated mechanotransduction promotes translocation of Barrier to Autointegration Factor (BAF) to the nuclear membrane to inhibit DNA replication in myonecui. U. C. P1, T. Volf1; 1Molecular Genetics, Weizmann Institute of Science, Rehovot, Israel

B385/P2209 Drosophilna emerin controls LINC complex localization and transcription to regulate myonuclear position. T.R. Mandigo1, B.D. Turcich1, A.J. Anderson1, M.R. Hussey1; 1Biology, Boston College, Chestnut Hill, MA

B386/P2210 Regulation of SUN-KASH interactions in LINC complexes and the role of giant KASH proteins in nuclear positioning. H. Hao1, Z. Jahed1, E. Gregory1, M. Mofrad1, D.A. Starr1; 1Molecular and Cellular Biology, UC Davis, Davis, CA, 2Bioengineering, UC Berkeley, Berkeley, CA

B387/P2211 Role of KASH domain lengths in LINC complex functions. Z. Jahed1, H. Hao2, V. Thakkar1, U.T. Vu1, V.A. Valdez2, A. Rathish1, D. Fadavi1, D.A. Starr1, M. Mofrad1; 2Departments of Mechanical Engineering and Bioengineering, University of California Berkeley, Berkeley, CA, 3Department of Molecular and Cellular Biology, University of California, Davis, Davis, CA

B388/P2212 LINC complexes and branched-actin networks function together to move nuclei through constricted spaces. L. Ma1, J. Ho1, D.A. Starr1; 2Molecular and Cellular Biology, UC Davis, Davis, CA

B389/P2213 Giant nesprins accumulate at the front of nuclei deforming through narrow constrictions. P. Davidson1,2, A. Battistella1,2,3,4, B. Cadot5,6,7, N. Borghi8,9,10; 1Physico Chimie Curie, Institut Curie, Paris, France, 2UMR 168, CNRS, Paris, France, 3Université PSL, Paris, France, 4Sorbonne Université, Paris, France, 5Center of Research in Myology, Paris, France, 6INSERM, Paris, France, 7UMR 974, CNRS, Paris, France, 8Institut Jacques Monod, Paris, France, 9UMR 7592, CNRS, Paris, France, 10Université Paris-Diderot, Paris, France

B390/P2214 Artificial nuclear membranes: A synthetic biology platform for the reconstruction and mechanistic dissection of LINC complex assembly. S. Majumder1, P. Willey1, M. DeNies1, A.P. Lui1, G. Luto1; 1Mechanical Engineering, University of Michigan, Ann Arbor, MI, 2Genetics, Cell Biology, and Development, University of Minnesota, Minneapolis, MN
Endocytic Trafficking 2

**B392/P2215** Quantitative analysis of protein recruitment kinetics during clathrin-mediated endocytosis in budding yeast provides novel mechanistic insights. J.E. Hassinger1; R.T. Pedersen1, P. Marchando1, D.G. Drubin1; 2Biophysics, University of California, Berkeley, Berkeley, CA; 1Molecular and Cell Biology, University of California, Berkeley, CA

**B393/P2216** Protein Networks as Synergistic Initiators of Clathrin Mediated Endocytosis. G. Kago1,2; K.J. Day1; W.T. Sneath1; W.F. Zeno1; J.B. Richter1; L. Wang1; C.C. Hayden1; E.M. Lafer1; J.C. Stachowiak1,2; 2Department of Biomedical Engineering, University of Texas at Austin, Austin, TX, 1Institute of Cellular and Molecular Biology, University of Texas at Austin, Austin, TX, 1Department of Biochemistry and Structural Biology, University of Texas Health Science Center at San Antonio, San Antonio, TX

**B394/P2217** Nanoscale Curvature Alters the Localization and Dynamics of Endocytic Machinery During Clathrin-Mediated Endocytosis. R. Caill1, D.G. Drubin1; S. Dhuey2; S. Cabrini1; 1Molecular and Cell Biology, UC Berkeley, Berkeley, CA; 2Molecular Foundry, Lawrence Berkeley National Lab, Berkeley, CA

**B395/P2218** Regulation of actin polymerization during clathrin-mediated endocytosis by the Tda2-Aim21 complex. A.K. Lamb1; S.M. Di Pietro1; 1Biochemistry & Molecular Biology, Colorado State University, Fort Collins, CO

**B396/P2219** Temperature-mediated Induction of Caveolin-mediated Endocytosis via Elastin-like Polypeptides. Y. Wang1; D.R. Tzypak2; H. Avila1; J.A. Mackay1; C.T. Okamoto1; 1School of Pharmacy, University of Southern California, Los Angeles, CA

**B397/P2220** Different pathways for Epidermal Growth Factor endocytosis. M.A. Alfonzo Mendez1; J.W. Taraska1; K.A. Sochacki1; 1NHLBI, NIH, Bethesda, MD

**B398/P2221** Investigation of Potential Target-Independent Uptake Mechanisms of ADC-Induced Connael Toxicity. R. Ciurlionis1, P.S. Mahalingiah1; E.L. DiGiammarino1; S. Nottoli1; C.J. Dunn1; M. Klaczynski1; R. Peterson1, 2M.J. Liguori1; 1Pre-Clinical Safety, Abbvie, Inc., North Chicago, IL; 2Global Protein Sciences, Abbvie, Inc., North Chicago, IL; 1Drug Metabolism and Pharmacokinetics, Abbvie, Inc., North Chicago, IL

**B399/P2222** Regulation of clathrin-mediated endocytosis by O-linked B-N-Acetylgalactosamine modifications. S. Rahmani1; R.C. Delos Santos1; W.W. Wakarchuk1, C.N. Antonescu1; 1Chemistry and Biology, Ryerson University, Toronto, ON

**B400/P2223** Specific Role for PI3Kδ in Macropinocytosis. G.K. Salloumi1; C.T. Jakubik2; A.R. Bresnick1; J.M. Backer1; 1Molecular Pharmacology, Albert Einstein College of Medicine, Bronx, NY; 2Biochemistry, Albert Einstein College of Medicine, Bronx, NY

**B401/P2224** Retention of the scavenger receptor SR-B1 in the plasma membrane depends on its multimerization. R.F. Collings1; P.E. Marques1; S. Nyegaard1; W.S. Trimble1,2; S. Grinstein1,2; 1Cell Biology, Peter Gilan Centre for Research, Hospital for Sick Children, Toronto, ON; 2Lundbeck, Copenhagen, Denmark; 1Biochemistry, University of Toronto, Toronto, ON

**B402/P2225** Exploring how neuropathy-causing mutations affect the posttranslational modifications, channel activity and localization of TRPV4. W. Aisenberg1; J.M. Sullivan1; B.A. McCray1; C.J. Sumner1; 1Neurology, Johns Hopkins, Baltimore, MD

**B403/P2226** A role for Diet1 in endosomal trafficking in renal proximal tubular epithelium. J.R. Ong1,2; L. Vergnes1; J. Wohlschleger1; I. Kurtz1; K. Reue1,2,3; 1Human Genetics, University of California, Los Angeles, Los Angeles, CA; 2Molecular Biology Institute, University of California, Los Angeles, Los Angeles, CA; 3David Geffen School of Medicine, University of California, Los Angeles, Los Angeles, CA

**B404/P2227** Comparative cell biology of endocytosis in yeastas. A. Picco1; A. Rivier-Cordey1; M. Kaksonen1; 1Department of Biochemistry, University of Geneva, Geneva, Switzerland

**B405/P2228** The molecular mechanism and physiology significance of mDia-dependent ultrafast endocytosis in pancreatic β-cells. S.I. Wei1, Q.S. Zhao1; W. Du1; 1Institute of Molecular Medicine, Peking University, Beijing, China; 2Institute of Biophysics, Chinese Academy of Sciences, Beijing, China

**B406/P2229** Tetraspan protein SCAM-1 controls microdomains and cargo sorting on the endosome. A. Norris1; C. McManus1; J. Kushler1; B.D. Grant1; 1MBB, Rutgers University, Piscataway, NJ

**B408/P2231** Regulation of membrane scission by BAR domain proteins in yeast endocytosis. D. Menon1,2; M. Kaksonen1; 1University of Geneva, Geneva, Switzerland; 2EMBL-Heidelberg, Heidelberg, Germany

**B409/P2232** Syndapin interacting proteins in recycling endosome function. W.R. Rodriguez1; B. Grant1; 1Molecular Biology and Biochemistry, Rutgers University, New Brunswick, NJ

**B410/P2233** Peptidic Cell Penetrating Peptides as carriers of impermeant molecules across the cell membrane. A. Laniel1; C. McCartney1; E. Marouseau1; E. Marsault1; C. Laviole1; 1Pharmacology-Physiology, Université de Sherbrooke, Sherbrooke, QC

**B411/P2234** Cyclin D1 packed into extracellular vesicles derived from differentiating PC12 cells. L. Song1; R.W. Schekman1; 1Department of Molecular and Cell Biology, Howard Hughes Medical Institute, University of California, Berkeley, CA

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**Endosomes, Lysosomes, and Lysosome-Related Organelles 1**

**B412/P2235** E3-ubiquitin ligases and adaptor proteins mediate lysosome/vacuole nutrient transporter protein degradation by the ILP pathway. T. Kazmirchuk1; E.K. McNally1; C.L. Brett1; 1Biology, Concordia University, Montreal, QC

**B413/P2236** Alpha-arrestin regulation of autophagy identified through screening of the Saccharomyces cerevisiae Ubiquitin Interactome (ScUbI) library. R.W. Bowman1,2; K. Chera1; A.F. Donnelly1,3; 2Biological Sciences, University of Pittsburgh, Pittsburgh, PA; 3Biological Sciences, Duquesne University, Pittsburgh, PA

**B414/P2237** Establishment of a novel method to assess the activities of microautophagy and chaperone-mediated autophagy. M. Sato1; T. Seki1; A. Konno1; H. Hira1,2; Y. Kurauchi1; A. Hisatsune1,2; H. Katsuki2; 1Dept. Chemico-Pharmacol. Sci., Kumamoto Univ, Kumamoto, Japan; 2Dept. Neurophysiol. Neural repair, Gunma Univ, Gunma, Japan; 3Priority Organization for Innovation and Excellence, Kumamoto Univ, Kumamoto, Japan, 3Program for Leading Grad. Sch. “HIGO Program”, Kumamoto Univ, Kumamoto, Japan

**B415/P2238** TRAPPIC11 functions in autophagy by recruiting ATG2B-WIP1A/WRD45 to preautophagosomal membranes. D. Stanga1; Q. Zhao1; M.P. Milev1; D. Salt-Dic1; C. Jimenez-Mallabre1, M. Sacher1,2; 2Biologia, Concordia University, Montreal, QC, 2Neuromuscular Unit, Neuropeadiatrics, Hospital Sant Joan de Déu, Barcelona, Spain, 3Anatomy and Cell Biology, McGill University, Montreal, QC

**B416/P2239** Autophagy SNARES SNAP29 and SNAP47 have novel roles revealed during virus infection. A.K. Corona1; W.T. Jackson1; 1Microbiology and Immunology, University of Maryland-Baltimore, Baltimore, MD

**B417/P2240** The dynine subunit DYNCL1U2 regulates endolysosomal trafficking, chaperone-mediated autophagy receptor localization and survival in the lysosomal storage disease cystinosin. F. Rahman1, J.L. Johnson1, J. Zhang1; S.D. Catz1; 1Molecular Medicine, The Scripps Research Institute, La Jolla, CA

**B418/P2241** Evidence for a coincidence-detection mechanism that detaches myosin V from its cargoes. S. Wong1; J. Chang1; N. Azad1; L. Gal1, N. Harpaz2; M. Schuldiner1,2; L.S. Weisman1; 1Cellular and Molecular Biology, University of Michigan, Ann Arbor, MI; 2Department of Molecular Genetics, Weizmann Institute of Science, Rehovot, Israel

**B419/P2242** APPL-endosomes brings light to novel trafficking step during Pigmentation. R.A. Jani1; C. Delevoye1,2; G. Raposo1,2; 1CNRS, UMR144, Institut Curie, Paris, France; 2CNRS, UMR144, Cell and Tissue Imaging Facility (PICT-IBIS), Institut Curie, PSI Research University, Paris, France
B432/P2255 Oxygen tension regulates lysosomal activation and receptor tyrosine kinase degradation. J. Hong, T.R. Wuest, Y. Min, C. Lin; 1 Cancer and Inflammation Program, National Cancer Institute, Frederick, MD

Post-Golgi Trafficking

B433/P2256 Mechanism for selective formation of Alco- and APP- transport membrane vesicles at Golgi exit zone. Y. Sobu, Y. Shiraki, K. Chiba, T. Suzuki; 1 Graduate School of Pharmaceutical Sciences, Hokkaido University, Sapporo, Japan

B434/P2257 Dopey-1-Mon2 complex binds to dual-lipids and recruits kinesin-1 for centrifugally biased bidirectional trafficking of the Golgi. D. Mahajan, H. Tiel, B. Chen, L. Lu; 1 School of Biological Sciences, Nanyang Technological University, Singapore, Singapore

B435/P2258 Recruitment of AP-1 by a complex containing the HEATR5 protein Laa1 and a novel co-factor. M.C. Duncan, C.J. Zysnarski, F. Javed, S. Lhazin, J.Y. Martinez-Marquez; 1 Cell and Developmental Biology, University of Michigan, Ann Arbor, MI

B436/P2259 A somatostatin receptor storage compartment in pituitary cells expands the concept of signalling activated rapid resurfacing typical of Glut4 vesicles to a G-protein coupled receptor. W.A. Alshafie, G. Kratzer, Y. pan, T. Stroh, P.S. McPherson; 1 Neurology and Neurosurgery, McGill University, Montreal, QC

B437/P2260 Domains responsible for trans-Golgi network targeting of the peripheral membrane protein HID-1. B. Hummer, C. Burns, C.S. Asensio; 1 Biology, University of Denver, Denver, CO

B438/P2261 Dissecting post Golgi trafficking during plant cell growth and cell division. M. Rosquete, N. Worden, R.M. Sinclair, D. Cox, D.S. Domoszy, T. Wilkop, G. Drakakaki; 1 Plant Sciences, University of California Davis, Davis, CA, 2 Department of Physics, University of California, Davis, CA, 3 Biology, Skidmore College, Saratoga Springs, NY, 4 University of Kentucky, Lexington, KY

B439/P2262 MAPK Hog1 functions at the late Golgi transport via promoting Arl1 activation. Y. Wang, J. Hsu, F.S. Lee; 1 Institute of Molecular Medicine, College of Medicine, National Taiwan University, Taipei, Taiwan

B440/P2263 Myosin 1b Modulates Glucose-Stimulated Insulin Secretion in Pancreatic Beta Cells by Affecting Insulin Granule Trafficking. S. Komaba, L.M. Coluccio; 1 Physiology & Biophysics, Boston University School of Medicine, Boston, MA

Rab GTPases

B443/P2266 Maturation of Barrella burgdorferi-containing phagosomes in macrophages is driven by a SNX3-PI(3)P axis. M. Klose, S. Linder; 1 Institute for Microbiology, Virology and Immunology, University Medical Clinic Eppendorf, Hamburg, Germany

B444/P2267 HIV-1 Nef hijacks Lck and Rac1 endosomal traffic to dually modulate signaling- and actin cytoskeleton-mediated T cell functions. I. del Rio Iliguez, E. Vazquez Chavez, J. Bouchet, A. Alciver, I. Inserm U1221, Paris, France, 2 Immunology, Institut Pasteur, Paris, France, 3 Université Paris Descartes, Sorbonne Paris Cité, Paris, France

B445/P2268 Rab6-mediated transport is required for presentation of MAIT cell ligands on preexisting MR1 molecules. R. Kurapova, M.E. Huber, E. Karamoov, T. Fafesse, D.M. Levinsohn, M.J. Harff; 1 Pulmonary and Critical Care Medicine, Oregon Health Science University, Portland, OR, 2 Research Development, VA Portland Health Care System, Portland, OR, 3 Microbiology Molecular Immunology, Oregon Health Science University, Portland, OR

B446/P2269 Interrogation of Rab GTPases function by effector trapping. Y. Wang, R.D. Vale; 1 Cellular Molecular Pharmacology, UCSF, San Francisco, CA

B447/P2270 The Evolution of Rab GTPases across Paramecium species. L.J. Bright, M. Lynch; 1 Biology, SUNY New Paltz, New Paltz, NY, 2 Biodesign Institute, Arizona State University, Tempe, AZ

B448/P2271 Regulation of mTORC1 Signaling in Hepatocytes By the Small Gpase Rab32. K. Drizyte-Miller, M.B. Schott, M.A. McNiven; 1 Mayo Clinic Graduate School of Biomedical Sciences, Rochester, MN, 2 Department of Biochemistry and Molecular Biology and the Center for Digestive Diseases, Mayo Clinic, Rochester, MN
B449/P2272 Multiple TBC Proteins Control the Anterograde Trafficking of G Protein-Coupled Receptors via Inactivating Specific Rab GTPases. Z. Wei1, W. Huang1, G. Wu1; 2Pharmacol & Toxicol, Augusta University, Augusta, GA

B450/P2273 Bi-allelic mutations in TRAPPC2L result in a neurodevelopmental disorder and have an impact on RAB11 in fibroblasts. N. Al-Deri1, M.P. Milev1,2; 1Biology, Stanford, Stanford, CA, 2Medical Genetics Unit, Università di Bologna, Bologna, Italy

B451/P2274 Sbf is a Rab GEF that directs force balancing and ratched constriction of cell apices during Drosophila gastrulation. H. Miao1, T.E. Vanderleest1, C.E. Jewett1, J.T. Blankenship2; 1Department of Biological Sciences, University of Denver, Denver, CO, 2Department of Physics, University of Denver, Denver, CO

B452/P2275 Comprehensive knockout analysis of the Rab family small GTPases in MDCK cells. Y. Homma1, R. Kinoshita1, Y. Kuchitsu1, P.S. Wawro1, S. Manrubashi1, M.E. Oguchi1, M. Ishida1, N. Fujita2, M. Fukuda1; 1Department of Integrative Life Sciences, Tohoku University, Sendai, Japan

B453/P2276 Rab33a and Rab33b mediate the outgrowth of forebrain commissural axons in the zebrafish brain. L. Huang1, A. Urasaki1, N. Inagaki2; 1Division of biological science, Nara Institute of Science and Technology, Ibaraki, Japan

B454/P2277 Interaction of GOLPH3 with RAB1A and RAB1B: Identification of a putative non-canonical effector. V.A. Cavieres1, C. Cerda1, A. Rivera1, P.V. Burgos1,2, G.A. Mardones1,2; 1Division of Biological Sciences, University of California Berkeley, Berkeley, CA

B455/P2278 Dissecting yeast TRAPP11 complex function. A. Joiner1, B. Phillips2, E.A. Miller3, J.C. Fromme4; 1Molecular Biology and Genetics, Cornell University, Ithaca, NY, 2Medical Research Council Laboratory of Molecular Biology, Cambridge, United Kingdom, 3Department of Biochemistry & Cellular and Molecular Biology, University of Alberta, Edmonton, Alberta, Canada, 4School of Biotechnology and Molecular Science, University of New South Wales, Sydney, New South Wales, Australia

B456/P2279 Cdc42 regulates epithelial polarity by promoting the apical retention of Par6 and coupling to aPKC. R.F. Walther1, F. Pichaud1, F. Nunes De Almeida1; 2LMCB, University College London, London, United Kingdom

B460/P2282 Uncovering the spindle-orienting function of AGS3 in epidermal morphogenesis. C. Patino Descovich1,2, K.J. Lough1, D.C. Spitzer1, J. Yom1, S.E. Williams2,3; 1Pathology and Laboratory Medicine, UNC Chapel Hill, Chapel Hill, NC, 2Cell Biology and Physiology, UNC Chapel Hill, Chapel Hill, NC, 3Molecular and Cell Biology, University of California Berkeley, Berkeley, CA

B461/P2283 Dynamics of the Par complex during the cellular-automization process in the reconstruction system. K. Kawamoto1,2, S. Yoshura1, M. Morita1, S. Takemoto1, T. Shibata1, F. Matsuzaki1, H. Yokota1; 1Grad. Sch. of Bio., Kyoto Univ., Kyoto, Japan, 2RIKEN BDR, Kobe, Japan, 3RIKEN RAP, Wako, Japan

B462/P2284 Rab11b/Fip5 regulates formation of the terminal web and is necessary for microvilli stabilization during zebrafish intestinal development. C.E. Jewett1, B. Appel1, R. Prekeris2; 1Department of Cell and Developmental Biology, University of Colorado Anschutz Medical Campus, Aurora, CO, 2Department of Pediatrics, University of Colorado Anschutz Medical Campus, Aurora, CO

B463/P2285 Characterization of symmetry-breaking and polarity establishment mechanisms in the C. elegans intestinal epithelium. V. Naturale1, J.L. Feldman1; 1Biology, Stanford University, Stanford, CA

B464/P2286 Regulation of cell polarity by Rsr1, a Ras family GTPase in budding yeast. K.E. Miller1, H.D. Park2; 1Molecular Cellular Developmental Biology Program, The Ohio State University, Columbus, OH, 2Molecular Genetics Department, The Ohio State University, Columbus, OH

B465/P2287 Feedback between actomyosin and microtubules stabilizes apical cortex organization during tissue folding. C.S. Ko1, A.C. Martin1; 1Department of Biology, Massachusetts Institute of Technology, Cambridge, MA

B466/P2288 Interplay between GEFs orchestrates Cdc42 activity during cell polarity and cytokinesis. B.S. Hercyk1, J. Rich1, M. Das2; 1Biochemistry & Cellular and Molecular Biology, University of Tennessee, Knoxville, TN

B467/P2289 The large GTPase Mx1 binds KIF5B for cargo transport along microtubules. K. Ringer1, J. Riehl1, M. Müller1, F. Hoff1, R. Jacob1; 1Institute for Cytobiology, Philipps University Marburg, Marburg, Germany

B468/P2290 The basolateral Scribble Complex promotes cooperativity during collective migration. J.P. Campanale1, T.Y. Sun1, N. Stolpner1, D.J. Montell1, 2Molecular, Cellular and Developmental Biology, University of California Santa Barbara, Santa Barbara, CA

B469/P2291 Guiding self-organized pattern formation in cell polarity establishment. P. Gross1,2, K. Kuman1, N.W. Goehring1, J.S. Bois2, C. Hoege1, F. Jülicher2, S.W. Grill1,2; 3IMPI-CBG, Dresden, Germany, 4BIOTEC, Dresden, Germany, 5ICTS, Bangalore, India, 6Francis Crick Institute, London, United Kingdom, 7Biology and Biological Engineering, Caltech, Los Angeles, CA, 8MPI-IPK, Dresden, Germany

B470/P2292 A virtual subcellular map of fully polarized iPSC-derived Retinal Pigment Epithelium. D. Oortol1,2, N. Hotaling1, R. Sharma1, D. Bose1, N. Lin1, G. Peregordi2, S. Di Marco3, S. Bisti1, K. Bharti4; 1National Eye Institute, National Institutes of Health, BETHESDA, MD, 2Universita degli Studi dell’Aquila, L’Aquila, Italy, 3National Cancer Institute, National Institutes of Health, Bethesda, MD

Neurodegeneration 2

B472/P2293 The role of zinc-dependent delayed calcium influx via TRPC5 channels in oxidative neuronal death and its prevention by novel TRPC antagonists. S. Park1, S.I. Sul1, H. Jung1, J. Kim1, J. Hwang1,2; 1Asan Institute for Life Sciences, Asan Medical Center, Seoul, South Korea, 2Department of Convergence Medicine, University of Ulsan College of Medicine, Seoul, South Korea

B473/P2294 Roles of cysteine residues in microtubule-associated protein tau in its proteostasis and toxicity in neurons. T. Chiku1, T. Saito1, M. Oka1, A. Asada1, K.M. Iijima2,4, A. Takashima1, K. Ando1,2; 1Biological Sciences, Graduate School of Science, Tokyo Metropolitan University, Tokyo, Japan, 2Biological Sciences, Faculty of Science, Tokyo Metropolitan University, Tokyo, Japan, 3Alzheimer’s disease Research, National Center for Geriatrics and Gerontology, Obu, Aichi, Japan, 4Experimental Gerontology, Graduate School of Pharmaceutical Sciences, Nagoya City University, Aichi, Japan, 5Life Science, Faculty of Science, Gakushuin University, Tokyo, Japan

B474/P2295 Cdx5 regulates MARK4 activity and synergistically augments pathological tau phosphorylation. T. Saito1, T. Oba1, S. Shimizu1, K.M. Iijima2, K. Ando1,2; 1Biological Sciences, Tokyo Metropolitan University, Hachioji, Tokyo, Japan, 2Alzheimer’s Disease Research, National Center for Geriatrics and Gerontology, Obu, Aichi, Japan

B475/P2296 Melanochromatosis of Calcium-induced Neurite Retraction and Rupture. K. Pearce1, M. Bell1, W. Linthicum2, P. Rangamani3, S. Scarborough1,2; 1Chemistry and Biochemistry, Worcester Polytechnic Institute, Worcester, MA, 2Mechanical and Aerospace Engineering, University of California, San Diego, San Diego, CA

B476/P2297 Limited effects of FYT720 on APP metabolism in BV2 microglial cells and primary rat hippocampal neurons. A.L. Scheithauer1, K. Glebov1, S. Theill1, D. Fedorov1, R. Jabs2, P. Martinez-Martinez2, J. Walter1; 1Department of Neurology, University of Bonn, Bonn, Germany, 2Institute for Cellular Neurosciences, University of Bonn, Bonn, Germany, 3Division Neuroscience, Department of Psychiatry and Neuropsychology, School for Mental Health and Neuroscience, Maastricht University, Maastricht, Netherlands

Establishment and Maintenance of Polarity 1

B457/P2279 Apical-basolateral polarity establishment in the C. elegans embryonic intestinal epithelium. M. Pickett1, J.L. Feldman2; 1Biology, Stanford, Stanford, CA

B458/P2280 Phase transition of ACAP4 drives epithelial polarity program and regulated secretion. X. Liu1,2, W. Yao1, W. Wang1,2, X. Zhao1,2, Y. Zhang1, X. Song1,2,1, X. Ding1,1, X. Yao1; 1Organelle Dynamics, Keck Center for Cellular Dynamics, Hefei, China, 2Physiology, Morehouse School of Medicine, Atlanta, United States, 3Medicine, Beijing University of Chinese Medicine, Beijing, China

MONDAY
B487/P2298 Cholesterol influence on the proteolytic processing of APP demonstrated by a novel dual color fluorescent assay in living cells. M. Calamai1,2, C. Capitini1,2, A. Bigi1,2, R. Casella1, C. Cecchi1, L. Maggi1, F.S. Pavone1,2; 1National Institute of Optics, National Research Council of Italy, Florence, Italy, 2European Laboratory for Nonlinear Spectroscopy (LENS), University of Florence, Florence, Italy, 3Dipartimento di Fisica e Astronomia, University of Florence, Florence, Italy, 4Dipartimento di Scienze Biomediche Sperimentali e Cliniche "Mario Serio", University of Florence, Florence, Italy, 5Department of Experimental and Clinical Medicine, University of Florence, Florence, Italy

B488/P2300 Role of PARP-1 in postnatal oligodendrocyte development and differentiation. Y. Wang1,2, S. Zhang1,2, B. Kim1, F. Guo1; 1Institute for Pediatric Regenerative Medicine, Shriners Hospitals for Children, Northern California, Sacramento, CA, 2Neurology, University of California, Davis, Sacramento, CA

B489/P2301 Dual leucine zipper kinase is required for mechanical pain and microgliaosis resulting from nerve injury. J.J. Wlaschin1, J.M. Gluski1, E.K. Nguyen1, H. Silberberg1, J.H. Thompson2,3, A.T. Chesler2,3; 1Electrical and Computer Engineering, Michigan State University, East Lansing, MI, 2Siirt University, Siirt, Turkey, 3State University of New Jersey, Piscataway, NJ

B490/P2302 Novel roles of the Hippo pathway in structural maintenance of C. elegans neurons: A genetic model of premature aging-related neurodegeneration. H. Lee1,2, J. Kang1,2, C.H. Chung1,2, J. Lee1,2; 1Institute of Molecular Biology and Genetics, Seoul National University, Seoul, South Korea, 2Biological Sciences, Seoul National University, Seoul, South Korea, 3Cell and Regenerative Biology, University of Wisconsin at Madison, Madison, WI

B491/P2303 Pod-1 Regulates Synaptic Toxicity Caused by PAR-1 in Drosophila melanogaster. H. Kang1,2, H. Kim1, K. Kim1, S. Oh1, M. Lee1, S. Park1, S. Her1, H. Kang1, K. Park1, B. Lu1, S. Lee1; 1Gwangju center, Korea Basic Science Institute, Gwangju, South Korea, 2Department of Neural Development and Disease, Korea Brain Research Institute, Daegu, South Korea, 3Department of Medical Biotechnology, Soonchunhyang University, Asan, South Korea, 4Department of Systems Biotechnology, Chung-Ang University, Anseong, South Korea, 5Department of Pathology, Stanford University School of Medicine, Stanford, CA

B492/P2304 A chitosan-based hydrogel scaffold to sustain calcium homeostasis of cultured cortical neurons in glutamate excitotoxicity. E.A. Grebenik1, K.N. Bardakova1,2, T.S. Demina1, N.V. Mineva1, N.N. Vervasova1, I.A. Krasilnikova1, D.V. Butnaru1, A.M. Surin1,2, V.G. Pinels1, P. Timashev1,2; 1Institute for Regenerative Medicine, Sechenov First Moscow State Medical University, Moscow, Russia, 2Federal Research Centre "Crystallography and Photonics", Institute of Photonic Technologies, Russian Academy of Sciences, Moscow, Russia, 3Enikolopov Institute of Synthetic Polymer Materials, Russian Academy of Sciences, Moscow, Russia, 4National Medical Research Center of Children's Health, Moscow, Russia, 5Institute of General Pathology and Pathophysiology, Moscow, Russia, 6N. N. Semenov Institute of Chemical Physics, Russian Academy of Sciences, Moscow, Russia

B493/P2305 Aflatoxin B1 induces spontaneous seizures. H. Kim1, Y. Yang1, H. Hwang1, H. Lim1, J. Kim1, P. Suh1; 1School of Life Sciences, Ulsan National Institute of Science and Technology (UNIST), Ulsan, South Korea, 2Aging Research Center, Korea Research Institute of Bioscience and Biotechnology (KIRIBB), Daejeon, South Korea, 3Brain Science Institute, Korea Institute of Science and Technology (KIST), Seoul, South Korea

B494/P2306 The pro-nociceptive action of neuropetide FF receptor type 2 through spinal inflammatory mediators. Y. Lin1,2, J. Chen1,2; 1Graduate Institute of Biomedical Sciences, Chang Gung University, Taoyuan, Taiwan, 2Health Aging Research Center, Chang Gung University, Taoyuan, Taiwan

B495/P2307 Effects of long-term exposure to aluminum on the hippocampus in a rat model of type 2 diabetes. Y. Yoon1,2, J. Kim1, H. Jung1, S. Yi1, D. Kim1, I. Hwang1,2; 1Department of Anatomy and Cell Biology, Seoul National University College of Veterinary Medicine, Seoul, South Korea, 2Seoul National University Research Institute for Veterinary Science, Seoul, South Korea, 3Department of Biomedical Laboratory Science, Soonchunhyang University College of Medical Sciences, Asan, South Korea, 4Department of Biochemistry and Molecular Biology, Gangneung-Wonju National University College of Dentistry, Gangneung, South Korea

B496/P2308 Neuronal aneuploidy and associated apoptosis in neurodegenerative and neurodevelopmental diseases indicate a common cell cycle defect. H. Potter1,2,3, J. Caneus2,3, M. Elor2,3, N. Elder1,3, H. Chia1,3, A. Granic1; 1Neurology, University of Colorado Anschutz Medical Campus, Aurora, CO, 2CRM Institute for Down Syndrome, University of Colorado Anschutz Medical Campus, Aurora, CO, 3Rocky Mountain Alzheimer's Disease Center, University of Colorado Anschutz Medical Campus, Aurora, CO, 4Nanoscience Technology Center, University of Central Florida, Orlando, FL, 5Molecular Biology Program, University of Colorado Anschutz Medical Campus, Aurora, CO, 6DAGE Research Group, Institute of Neuroscience, Campus for Ageing and Vitality, Newcastle University, Newcastle upon Tyne, United Kingdom

B497/P2309 Molecular dynamics of spinal cord injury: Identification of potential biomarkers using a three-dimensional (3-D) model. A.M. Medina-Lopez1, B.S.2, J.L. Torres-Vazquez2, H.E. Shinogle-Decker1, B.S.2, N. Martinez-Rivera1, Ph.D.2, E. Rosa-Molinar1, Ph.D.2,3; 1Microscopy and Analytical Imaging Research Resource Core Laboratory, The University of Kansas, Lawrence, KS, 2Department of Pharmacology and Toxicology, The University of Kansas, Lawrence, KS

B498/P2310 Cholesterol influence on the proteolytic processing of APP demonstrated by a novel dual color fluorescent assay in living cells. M. Calamai1,2, C. Capitini1,2, A. Bigi1,2, R. Casella1, C. Cecchi1, L. Maggi1, F.S. Pavone1,2; 1National Institute of Optics, National Research Council of Italy, Florence, Italy, 2European Laboratory for Nonlinear Spectroscopy (LENS), University of Florence, Florence, Italy, 3Dipartimento di Fisica e Astronomia, University of Florence, Florence, Italy, 4Dipartimento di Scienze Biomediche Sperimentali e Cliniche "Mario Serio", University of Florence, Florence, Italy, 5Department of Experimental and Clinical Medicine, University of Florence, Florence, Italy

B499/P2311 Long-term effects of Amyloid-β dimer/trimer on location and abundance of collagen-actin rods and on neuronal viability in cultured rodent hippocampal slices using live imaging. I.W. Babcock1,2, J.R. Bamburg1,2, L.S. Minamide1,2, A.E. Shaw1,2; 1Biochemistry and Molecular Biology, Colorado State University, Fort Collins, CO, 2Molecular, Cellular Integrative Neurosciences, Colorado State University, Fort Collins, CO

B500/P2312 Minimizing spontaneous ADf/ collagen-actin rods in neurons as a quantitative assay to optimize neurobasal medium for rodent hippocampal slice and dissociated neuronal cultures. L.S. Minamide1, I.W. Babcock1, Q. Yang1, I.S. Govardhan1, A.M. Runyan1, A.E. Shaw1, J.R. Bamburg2; 1Biochemistry and Molecular Biology, Colorado State University, Fort Collins, CO

B501/P2313 Are Levels of Muscle-Produced Neutrophilin-3 Altered by Pyridoxine (Vitamin B6) Treatments that Selectively Kill Proprioceptive Neurons in the Embryonic Chicken? C.A. Pero1, J.M. Leastr1, A.K. Weiss1, A.A. Sharp1, S. Fromherz1; 2Biology, Saginaw Valley State University, University Center, MI, 3Physiology, Southern Illinois University, Carbondale, IL

B502/P2314 Characterizing the role of Abbb2b in neuronal health. H.J. Nonarath1, E.M. Clark1, B.A. Link1; 1CBNA, Medical College of Wisconsin, Milwaukee, WI

Neuronal Signaling

B503/P2315 GABAergic neuron-specific loss of PLCγ1 induce spontaneous seizures. H. Kim1, Y. Yang1, H. Hwang1, H. Rhim1, J. Kim1, P. Suh1; 1School of Life Sciences, Ulsan National Institute of Science and Technology (UNIST), Ulsan, South Korea, 2Aging Research Center, Korea Research Institute of Bioscience and Biotechnology (KIRIBB), Daejeon, South Korea, 3Brain Science Institute, Korea Institute of Science and Technology (KIST), Seoul, South Korea

B504/P2316 The pro-nociceptive action of neuropetide FF receptor type 2 through spinal inflammatory mediators. Y. Lin1,2, J. Chen1,2; 1Graduate Institute of Biomedical Sciences, Chang Gung University, Taoyuan, Taiwan, 2Health Aging Research Center, Chang Gung University, Taoyuan, Taiwan
B507/P2328 Proteomic and phosphoproteomic changes during normal and drug-promoted differentiation of human neural progenitor cells. Y. Song1,2, K. Subramanian3, M.J. Berberich1, S. Rodriguez2, R. Everley3, M. Albers1, T.J. Mitchison1, P.K. Sorger1,2,3,4; Systems Biology, Harvard Medical School, Boston, MA, 1Neurology, Mass General Hospital, Boston, MA, 2Harvard Program in Therapeutic Science, Harvard Medical School, Boston, MA

Monday Poster Session

B514/P2334 Sequential lipolysis and lipophagy pathways orchestrate lipid droplet breakdown in hepatocytes. M.B. Schott1, S.G. Weller1, R.J. Schulze1, E.W. Krueger1, H. Cao2, C.A. Casey3, M.A. McNiven1; 1Department of Biochemistry and Molecular Biology, Mayo Clinic, Rochester, MN, 2Department of Internal Medicine, University of Nebraska Medical Center, Omaha, NE, 3Research Service, Nebraska Western Iowa Health Care System, Omaha, NE

B515/P2335 The interplay of lipid- and ESCRT-dependent processes at the nuclear envelope is critical for the biogenesis of leucine containing exosomes in promoting neutrophils. R. Majumdar1, J.Y. Park2, C.A. Parent1; 1Dept. of Pharmacology, University of Michigan, Ann Arbor, MI, 2Laboratory of Cellular and Molecular Biology, National Institutes of Health, Bethesda, MD

B516/P2336 Homeostatic remodeling of mammalian membranes in response to dietary lipid perturbations directs stem cell differentiation. K.R. Levental1, E.J. Malmberg1, I. Levental1, R. Ernst2; 1Integrative Biology and Pharmacology, McGovern Medical School at The University of TX Health Science Center at Houston, Houston, TX, 2Medical Biochemistry Molecular Biology, University of Saarland, Homburg, Germany

B517/P2337 Ca2+-dependent activation of Arf5 at ER/Plasma Membrane contact sites by an IQSec1/ORP3 complex controls focal adhesion turnover and cell migration. R.S. D’Souza1, A. Turgut1, J. Lim1, J.F. Durel1, K. Orth2, J. Zhang3, M. Sohn4, Y. Kim1, T. Balla1, J.E. Casanova1; 1Cell Biology, University of Virginia, Charlottesville, VA, 2Molecular Biology, University of Texas, Southwestern Medical Centre, Dallas, TX, 3NICHD/DIR, Bethesda, MD

B518/P2338 Plasma membrane cholesterol organization regulates cholesterol homeostasis. K. Johnson1, S. Endapally2; 1Microbiology, National Taiwan University, Taipei, Taiwan

B520/P2340 Subcellular distribution of phosphatidylinerine defined by freeze-fracture electron microscopy. T. Fujimoto1, T. Tsuji2, S. Khaing1, N. Hirokawa1; 1Department of Cell Biology and Anatomy, Nagoya University Graduate School of Medicine, Nagoya, Japan

B521/P2341 Reversible, large-scale phase separation of vacuole membranes in living yeast cells. S.P. Rayermann1, G.E. Rayermann2, C.E. Cornell1, A.J. Merz1, S.L. Kelley1; 1Chemistry, University of Washington, Seattle, Seattle, WA, 2Biochemistry, University of Washington, Seattle, Seattle, WA

B522/P2342 High speed, single molecule imaging in the mammalian endoplasmic reticulum. C.J. Obara1, J. Nixon-Abell1, C. Blackstone1, J. Lippincott-Schwartz1; 1Janelia Research Campus, Howard Hughes Medical Institute, Ashburn, VA, 2Cell Biology Section, National Institute of Neurological Disorders and Stroke, NIH, Bethesda, MD

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Mitochondria, Chloroplasts, and Peroxisomes 2

BS29/P2349 Mitochondrial protein acylation is a post-translational signature of energy dysfunction. N. Ghazal1, J.Q. Kwong1, 1Department of Pediatrics, Emory University School of Medicine, Atlanta, GA

BS30/P2350 MDM2 integrates cellular respiration and apoptotic signaling through NDUFS1 and the mitochondrial network. J.E. Chipuk1; 1Oncological Sciences, Icahn School of Medicine at Mount Sinai, New York, NY

BS31/P2351 Parkin is critical for complete skeletal muscle regeneration and C2C12 differentiation. M.V. Estca1, J.O. Silvestre1, A.B. Gustafsson1, A.S. Moriscot1, I.L. Baptista1, 1School of Applied Sciences, University of Campinas, Limeira, Brazil, 1Department of Anatomy, University of Sao Paulo, Sao Paulo, Brazil, 1Skaggs School of Pharmacy and Pharmaceutical Sciences, University of California, San Diego, San Diego, CA

BS32/P2352 Unraveling bioenergetic heterogeneity of malignant tumors: prospects for development of targeted therapies. G.R. Tarasova1, M.O. Gomzikova1, A. Rizvanov1, G.V. Cherepnev1, N.V. Kalacheva1, 1Institute of Fundamental Medicine and Biology, Kazan Federal University, Kazan, Russia

BS33/P2353 Characterization of mitochondrial metabolic oscillations in live rodents. Y. Ng1, D. Chen2, W. Lrost3, R. Weigert4, 1Laboratory of Cellular and Molecular Biology, National Cancer Institute, Bethesda, MD, 2College of Computer, Mathematical, and Natural Sciences, University of Maryland, College Park, MD, 3Intracellular Membrane Trafficking Section, National Institute of Dental and Craniofacial Research, Bethesda, MD

BS34/P2354 Structure and mitochondrion transportation inside tunneling nanotubes between pancreatic cancer cells under stress. C. Lee1, C. Kuo1, H. Pan1, C. Shen2, C. Lee3, 1Research Center for Applied Sciences, Academia Sinica, Taipei, Taiwan, 2Genomics Research Center, Academia Sinica, Taipei, Taiwan, 3Institute of Biophotonics, National Yang-Ming University, Taipei, Taiwan

BS35/P2355 NEET Energetics: CDGSH proteins play fundamental roles in cellular bioenergetics. R.A. Skolik1, C. Nnatubueg0, E. Rosiek1, M.E. Konkle1, N. Chakraborty4, M.A. Menze2, 1Biology, University of Louisville, Louisville, KY, 2Chemistry, Ball State University, Muncie, IN, 3Mechanical Engineering, University of Michigan, Dearborn, Dearborn, MI

BS36/P2356 The Anti-Viral Dynamin Family Member MxMB Participates in Mitochondrial Integrity. H. Cao1, J. Chen1, E.W. Krueger1, K. Drizyte-Miller1, M.A. McNiven1, 1Gastroenterology, Mayo Clinic, Rochester, MN

BS37/P2357 Free heme induces a metabolic switch in endothelial cells. A. Srivastava1, C.A. Eccleston1, R. Rafikov1, R. Rafikov1, 1Department of Medicine, University of Arizona, Tucson, AZ

BS38/P2358 Developing structural interactomics by cross-linking mass spectrometry and its application in organellar biology. F. Liu1, 1Leibniz-Forschungsinstitut für Molekulare Pharmakologie, Berlin, Germany

BS39/P2359 The mitophagy receptor NIX drives programmed mitochondrial degradation in epidermal keratinocytes. C.L. Simpson1, E.L. Holzbaur1; 1Dermatology and Physiology, University of Pennsylvania, Philadelphia, PA

BS40/P2360 A LOOK INTO THE MITOCHONDRIAL MORPHOLOGY OF STENOTOR COERULEUS. N.S. Rodrigues1, R.M. McGillivary1, B. Riggis2, W.F. Marshall2, 1Biochemistry and biophysics, University of California San Francisco, San Francisco, CA, 2Biochemistry, San Francisco State University, San Francisco, CA

BS41/P2361 MIRO-1 Determines Mitochondrial Shape Transition upon GPCR Activation and Ca2+ Stress. E.J. Carvalho1, 2, J.E. Shackelford1, 2, J.Q. Kwong1, J.Q. Kwong1, I.L. Baptista1, 1School of Applied Sciences, University of Campinas, Limeira, Brazil, 2Department of Anatomy, University of Sao Paulo, Sao Paulo, Brazil, 3School of Applied Sciences, University of Campinas, Limeira, Brazil

BS42/P2362 Molecular and topological reorganizations in mitochondrial architecture interplay during Box-mediated steps of apoptosis. N.R. Ader1, 2, P. Hoffman1, I. Ganeva1, A. Borgeaud1, C. Wang1, R.J. Youle1, W. Kukulski1, 1National Institute of Neurological Disorders and Stroke, National Institutes of Health, Bethesda, MD, 2Cell Biology, Medical Research Council Laboratory of Molecular Biology, Cambridge, United Kingdom

BS43/P2363 Functional peroxisomes are necessary to maintain regulatory pathways of cholesterol homeostasis and efficient cholesterol synthesis in CHO cells. K.N. Charles1, J.E. Shackelford1, P.L. Faust2, S.J. Friesler1, H. Stangt1, S.K. Krisans3, W.J. Kovacs2, 1Department of Biology, San Diego State University, San Diego, CA, 2Department of Pathology and Cell Biology, Columbia University New York, NY, 3Departments of Ophthalmology and Biochemistry; the SUNY Eye Institute; and the Research Service, Veterans Administration Western New York Healthcare System, The State University of New York (SUNY), Buffalo, NY, 4Department of Medical Chemistry, Medical University of Vienna, Vienna, Austria, 5Institute of Molecular Health Sciences, ETH Zurich, Zurich, Switzerland

BS44/P2364 Pervasive membrane complexity in Arabidopsis peroxisomes. Z.J. Wright1, B. Bartel1; 1Biosciences, Rice University, Houston, TX

BS45/P2365 Genetic suppressors reveal varying methods for improving peroxisome function in Arabidopsis peroxin mutants. R. Linna1, S. Xiong2, B. Bartel1; 1Biosciences, Rice University, Houston, TX

BS46/P2366 Mitochondrial fission in response to axonal injury. J. Kedra1, S. Lin1, G. Gallo1, G.M. Smith1, 1Shriners Hospitals Pediatric Research Center, Temple University, Philadelphia, PA

BS47/P2367 Comparative mitochondrial genomes and proteomes of three osmoherotrophic marine protists (labryrinthulocyctes). J. Collier1, 1ScH Marine Atmosp Sciences, Stony Brook University, Stony Brook, NY, 1IB-CONICYT-UNMhp, Universidad Nacional de Mar del Plata, Mar del Plata, Argentina

BS48/P2368 Structural and functional analysis of Fzo1 ubiquitylating facilitating mitochondrial fusion. V. Anton1, R. Schuster1, 1, I. Buntenbroich1, 2, M. Esobar-Henriques1, 2, 1Institute for Genetics, University of Cologne, Cologne, Germany, 2CECAD research center, University of Cologne, Cologne, Germany

BS49/P2369 Study of the chemical and signaling bases of animal particulate matter-induced oxidative stress in alveolar macrophages. M. Olivas1, D. Flores1, A. Waterston1, L. Dejean1, J. Hasson1, 1Chemistry, California State University, Fresno, Fresno, CA

BS50/P2370 Role of cysteine residues in the mitofusin Fzo1 for mitochondrial fusion. I. Buntenbroich1, V. Anton1, M. Esobar-Henriques1, 1Institute of Genetics, CECAD, University of Cologne, Cologne, Germany

Signaling Scaffolds and Microdomains

BS52/P2371 A PAK/cdc42 Signaling Axis Dynamically Restricts Angiogenic Sprouting by Regulating Podosome Rosette Biogenesis and Matrix Remodeling. J. MacKeil1, P. Brzezinska1, D.H. Maurice1; 1Biomedical and Molecular Sciences, Queen’s University, Kingston, ON, 2Department of Pathology and Cell Biology, Columbia University New York, NY, 3Departments of Ophthalmology and Biochemistry; the SUNY Eye Institute; and the Research Service, Veterans Administration Western New York Healthcare System, The State University of New York (SUNY), Buffalo, NY, 4Department of Medical Chemistry, Medical University of Vienna, Vienna, Austria, 5Institute of Molecular Health Sciences, ETH Zurich, Zurich, Switzerland
Post-Translational Modifications in Signaling

B565/P2384 MK2-mediated phosphorylation of Hspa1L enhances its chaperone activity and protects male germ cells from heat stress-induced apoptosis. Williams, T.I. Strochlic,1; 1Department of Biochemistry and Molecular Biology, Drexel University College of Medicine, Philadelphia, PA

B566/P2385 Single-molecule analysis of the role of FAD in the conformational landscape of the Drosophila cryptochrome. S. Foroutannejad,1,2 C. Lin1, C. Manahan1, B. Crane2, R. Maillard1,1; 1Chemistry, Georgetown University, Washington, DC, 2Chemistry, Cornell University, Ithaca, NY

B567/P2386 Androgen Receptor Signaling Promotes YAP1 Nuclear Localization. B. Cinari1,2, M. Mathkour1, S.A. Khan1, C.S. Moreno1,2,1; 1Department of Biological Sciences, The University of Texas, Austin, 2Department of Molecular and Cellular Biology, University of California, Berkeley, CA

B568/P2387 Glycosylation of cell-cell adhesion proteins by GALNT3 is essential for maintaining an epithelial state in trophoblast stem cells. D. Raghu1, A.N. Abelli1; 1Biological Sciences, University of Memphis, MEMPHIS, TN

B569/P2388 SHARPIN at the Nexus of Integri, Immune and Inflammatory Signaling in Human Platelets and Megakaryocytes. A. Kasirer-Friede1, W. Tjahjono1, K. Eto2, S.J. Shattil1; 1Medicine, UC California, San Diego, La Jolla, CA, 2Center for iPS Cell Research and Application, Kyoto University, Kyoto, Japan

B570/P2389 Membrane-associated intrinsically disordered signaling proteins can exhibit emergent cooperativity, even under symmetric reversible kinetics. L. Clemens1, D. Peschek1, J.F. Allard1,2,3; 1Center for Complex Biological Systems, University of California, Irvine, Irvine, CA, 2Sir William Dunn School of Pathology, University of Oxford, Oxford, United Kingdom, 3Mathematics, University of California, Irvine, Irvine, CA, 4Physics and Astronomy, University of California, Irvine, Irvine, CA

B571/P2390 The use of Highly Validated Phospho-Specific Antibodies to Study Protein Phosphorylation in EGF R Signaling. M.J. Shulewitz1, K. Schwartz1, J. Zaborowska1, V. Wang1, Reagent, R D, Bio-Rad Laboratories, Hercules, CA

B572/P2391 NAP1L1 regulates NF-kappaB signaling pathway acting on anti-apoptotic Mcl-1 gene expression. T. Tanaka1, K. Goto; 1Department of Anatomy and Cell Biology, Yamagata University School of Medicine, Yamagata, Japan

B573/P2392 Temporal integration of mitochondrial stress signals by the PINK1:Parkin pathway. J.L. Bowling1, M.C. Skofield1, W.A. Riley1, D.E. Nelson1; 1Biological, Middle Tennessee State University, Murfreesboro, TN

B574/P2393 Phosphorylation-dependent regulation of C2H2 Zinc Finger transcription factors. E. Tarapore1, Y. Tran1, A.M. Valencia1, S.X. Atwood1; 1Developmental and Cell Biology, University of California, Irvine, Irvine, CA

B575/P2394 A Viral Homologue of IPS-1 Interacts with TRAF3, Blocking RIG-I like Receptors Signaling. B. He1, D.J. Sanchez1; 1College of Pharmacy, Western University of Health Sciences, Pomona, CA

B576/P2395 Analysis of apoptosis induced by actin C-terminal 15 kDa fragment. H. Kamiyama1, N. Ito1, T. Shigenobu1, M. Tanaka1; 1Graduate School of Life Science and Engineering, Tokyo Denki University, Saitama, Japan, 2Medical Business Promotion Department, Takano Co, ltd, Tokyo, Japan

B577/P2396 Hypoxic signaling in skeletal muscle fibrosis; upregulation of CTGF/ccn2 expression under hypoxia and TGF-b1. R.C. Valle-Tenney1, D. Rebollo1, E. Bränden1; 1Biological Sciences, Pontificia Universidad Católica de Chile, Santiago, Chile

B578/P2397 Arginine Methylation is Required for Wnt Signaling and Endosomal Trafficking. L.V. Albrecht1, E.D. Roberts1; 1Biological Chemistry, University of California, Los Angeles, Los Angeles, CA
BS59/P2407 Regulation of cell morphology by the membrane glycoprotein Prominin-1. A. Hori-Nishi1, T. Kondo2, N. Sasai1; 1Division of Biomedical Science, Nara Institute of Science and technology, Nara, Japan; 2STEM Cell Biology, Institute of Genetic Medicine, Hokkaido University, Sapporo, Japan

BS59/P2408 Induction of cortical excitability in Xenopus laevis oocytes. A. Varjabedian1,2, W. Bement1,2; 1Graduate Program in Cell and Molecular Biology, University of Wisconsin-Madison, Madison, WI, 2Laboratory of Cell and Molecular Biology, University of Wisconsin-Madison, Madison, WI, 3Department of Integrative Biology, University of Wisconsin-Madison, Madison, WI

BS59/P2409 Non-canonical activation of Gli transcription factors by ARHGAP36. P. Nano1, T.K. Johnson1, J. Ni2, P.G. Rack1, J.K. Chen1,2; 1Chemical and Systems Biology, Stanford University School of Medicine, Stanford, CA, 2Developmental Biology, Stanford University School of Medicine, Stanford, CA

BS59/P2410 The novel yeast RhoGAP, Gym1, contributes to cell polarity by modulating Rho3 localization to the plasma membrane. R.M. Gingrich1, K.M. Lwin1,2, A.P. Bretscher1; 1Molecular Biology and Genetics, Cornell University, Ithaca, NY, 2The Rockefeller University, New York, NY

BS59/P2411 Palmitate inhibits muscle cell insulin-stimulated GLUT4 translocation and Rac1-dependent actin remodelling independently of Akt. V. Tokarz1,2, H. Akhuazad1, A. Kilo3,4; 1Cell Biology, Hospital for Sick Children, Toronto, ON, 2Physiology, University of Toronto, Toronto, ON, 3Biochemistry, University of Toronto, Toronto, ON

Mechanotransduction 1

BS59/P2412 Mechanical feedback coordinates cell wall expansion and assembly in yeast mating morphogenesis. S.P. Banavar1,2, C. Bakal1; 1Chemistry and Biochemistry, The Ohio State University, Columbus, OH; 2Mechanics of Complex Media, Max Planck Institute for Dynamics and Self-organization, Göttingen, Germany

BS59/P2413 The Inner-Ear Tip Link Complex in Vitro and In Silico. M. Sotomayor1, D. Choudhary1, Y. Narui1, P. De Le Torre Marquez1, B. Neel1, L.N. Wimalasena1, C.F. Klaneck1, C. Chen1, R. Araya-Sech1, E. Tamiselvan1; 1Chemistry and Biochemistry, The Ohio State University, Columbus, OH

BS59/P2414 Transmission of Exogenous Forces from the Dorsal to Ventral Sides of a Single Cell. V. Maruthamuthu1, S. Dumbali1, J. Bush1; 1Mechanical & Aerospace Engineering, Old Dominion University, Norfolk, VA

B60/P2415 Perturbed nuclear lamina network in melanomas control nuclear mechanics and promote tumor progression. A.X. Cartagena-Rivera1, M.A. Baird1, R.S. Chadwick1, C.M. Waterman2; 1National Institute on Deafness and Other Communications Disorders, National Institutes of Health, Bethesda, MD; 2National Heart, Lung, and Blood Institute, National Institutes of Health, Bethesda, MD

B60/P2416 Force application to nuclei is differentially affected by the LIN3 complex and Ensconsin/MAP7. M.A. Collins1, L.A. Coon1, R. Thomas1, E.S. Folker1; 1Department of Biology, Boston College, Chestnut Hill, MA

B60/P2417 Cell-extrinsinc mechanical forces induce neutrophil polarization in the absence of leading-edge actin assembly pathways. B.R. Graziano1, A. Diz-Muñoz1, O.D. Weiner1; 1Cardiovascular Research Institute, UCSF, San Francisco, CA; 2Cell Biology and Biophysics, EMBL, Heidelberg, Germany

B60/P2418 Geometrical control of stem cell fate by self-organization of cytoskeleton. M. Ota1, Y.Q. Chen1, M. Wu1, Y. Wang1, K. Lin1, A. Chiono1, J. Kuo2,3, A.P. Bretscher1; 1Institute of Biochemistry and Molecular Biology, National Yang-Ming University, Taipei, Taiwan; 2Cancer Progression Research Center, National Yang-Ming University, Taipei, Taiwan; 3Department of Cell Biology and Anatomy, National Cheng Kung University, Tainan, Taiwan; 4Institute of Physics, Academia Sinica, Taipei, Taiwan; 5Institute of Biophotonics, National Yang-Ming University, Taipei, Taiwan

B60/P2419 Actomyosin bundles dictate extracellular matrix wavelengths to allow cell polarization during contact guidance. R.S. Fischer1, X. Sun1, J.T. Fourkas2, C.M. Waterman1; 1Cell Developmental Biology, National Heart Lung Blood Institute, Bethesda, MD; 2Biocell Biophysics, The Rockefeller University, New York, NY, 3Dept. of Chemistry Biochemistry, University of Maryland, College Park, MD

B60/P2420 Dual Color MIET and FRET for Cell Nanoscopy of Stress Fibers and Focal Adhesions. A.M. Chizhik1, C. Wollnik1, D. Ruhlhand1, N. Karedla1, A.I. Chizhik1, D. Hassei1, I. Gregori1, J. Enderlein1, F. Rehfeldt1; 13rd Institute of Physics - Biophysics, University of Götttingen, Göttingen, Germany

B60/P2421 An amphipathic helix of vinexin alpha is necessary for extracellular matrix stiffness-dependent conformational change in vinculin. N. Hiro1, T. Ichikawa1, Y. Kimura1, K. Ueda1, N. Kioka1,2; 1Division of Applied Life Sciences, Kyoto University, Kyoto, Japan; 2Department of Biochemistry, University of Maryland, College Park, MD

B60/P2422 SHARPIN modulates ligand-specific mechanosensing through regulation of integrin binding dynamics. M. Lerche1, A. Elosegui1, C. Guzman1, M. Georgiadou1, D. Gullberg1, P. Roca-Cusachs1,4, E. Peuhu1, J. Ivaska1,2; 1Turku Centre for Biototechnology, University of Turku, Turku, Finland; 2Institute for Bioengineering of Catalonia, Barcelona, Spain; 3The Department of Biomedicine, University of Bergen, Bergen, Norway; 4University of Barcelona, Barcelona, Spain; 5Department of Biochemistry and Food Chemistry, University of Turku, Turku, Finland
B615/P2432 Mechanical Regulation of Differentiation Switch in Vascular Smooth Muscle Cells. S. Talwar1,2; T. Xu1; R.K. Assoian1; 1Department of Pharmacology, Penn Medicine, University of Pennsylvania, Philadelphia, PA, 2Center of Engineering Mechanobiology, University Of Pennsylvania, Philadelphia, PA

B616/P2433 Identifying vinculin-based force-induced protein complexes. A. Tao1, A.S. LaCroix1, B.D. Hoffman2; 1Department of Biomedical Engineering, Duke University, Durham, NC

B617/P2434 Air-liquid-interface culture-based model of human and non-human lung epithelium. A. Imai-Matsushima1,2; L. Martin-Sancho1, S. Imai1,2; T. Zoranovic1, A. Karlas1, A. Hocke1, H. Berger1, H. Mollenkopf2, T.F. Meyer3; 1Preemptive Medicine and Lifestyle-related Research Center, Kyoto University Hospital, Kyoto, Japan, 2Department of Molecular Biology, Max-Planck-Institute for Infection Biology, Berlin, Germany, 3Department of Internal Medicine/Infectious Diseases and Pulmonary Medicine, Charité Université de Medicine, Berlin, Germany, 4Core Facility Microarray/Genomics, Max-Planck-Institute for Infection Biology, Berlin, Germany

B618/P2435 Generation of fluorescent expression constructs for key mechanotransducers, YAP and TAZ. B.C. Leonard1, R. Gottomukkala2, V.K. Raghunathan3, C.J. Murphy4, S.M. Thomasy1,3; 1Surgical and Radiological Sciences, School of Veterinary Medicine, University of California, Davis, Davis, CA, 2The Ocular Surface Institute, Department of Basic Sciences, College of Optometry, Department of Biomedical Engineering, Cullen College of Engineering, University of Houston, Houston, TX, 3Department of Ophthalmology Vision Sciences, School of Medicine, University of California, Davis, Davis, CA

B619/P2436 Investigating the binding interface of kindlin-2 and Integrin-Linked Kinase (ILK). H.F. Tan4, S.Y. Guan5, C.P. Chng2; 1School of Biological Sciences, Nanyang Technological University, Singapore, Singapore, 2Biophysical Modelling Group, Bioinformatics Institute, Agency for Science, Technology and Research, Singapore, Singapore

B620/P2437 Invadopodia are cellular machines integrating actin-based force production and MT1-MMP-dependent matrix fibril cleavage units. R. Ferrari1, G. Martin1, R. Voituriez2, S. Vassilopoulos3, P. Chavrier2; 1Subcellular Structure and Cellular Dynamics, CNRS UMR144, Institut Curie, PSL Research University, Paris, France, 2CNRS UMR 8237, Laboratoire Jean Perrin, Sorbonne Université, Paris, France, 3INserm UMR 974, Institute of Myology, Sorbonne Université, UPMC Univ Paris 06, Paris, France

B621/P2438 Super-long single fluorescent-molecule tracking reveals dynamic and tension-dependent anchorage of integrin as the basic mechanism for cell adhesion. T.A. Tsunoya1, R.S. Kasaia2, K.G. Suzuki3,4, T.K. Fujwara1, A. Kusumi1,2; 1Membrane Cooperativity Unit, Okinawa Institute of Science and Technology Graduate University (OIST), Okinawa, Japan, 2Institute for Frontier Life and Medical Sciences, Kyoto University, Kyoto, Japan, 3Institute for Integrated Cell-Material Sciences (IICMS), Kyoto University, Kyoto, Japan, 4Center for Highly Advanced Integration of Nano and Life Sciences (G-CHAIN), Gifu University, Gifu, Japan

B622/P2439 Arp2/3-nucleated dendritic actin networks are required for adhesion formation and cell spreading in 3D. T. Isoi4,5,6, K.M. Dean1,2, S.J. Han1,2, P. Roudot1,2, M.K. Driscoll1, E.S. Weif1,2, J.D. Cillay4,5,6, K.A. Sochacki1,2, G. Fiolka1, G. Danuser1,2; 1Lyda Hill Department of Bioinformatics, UT Southwestern Medical Center, Dallas, TX, 2Department of Cell Biology, UT Southwestern Medical Center, Dallas, TX, 3Laboratory of Molecular Biophysics, National Heart, Lung, and Blood Institute, National Institutes of Health, Bethesda, MD

Dynamics of Focal Adhesions and Invadosomes

B623/P2440 A mechanistic study of phosphatidylinositol-mediated receptor endocytosis at the podosome. Z. Feng1, C. Yu1; 1School of Biomedical Sciences, Li Ka Shing Faculty of Medicine, Hong Kong, China, Hong Kong

B624/P2441 Altered adhesion and cellular morphology in Down syndrome. S. Bailey1,2, P. Cassidy1, L. Kershner1, T. Bumbledare1, S. Kelemen1,2, A. Montazzoli1, K. Kygel1, C. Neifert1, K. Welshhans1,2; 1Department of Biological Sciences, Kent State University, Kent, OH, 2School of Biomedical Sciences, Kent State University, Kent, OH

Cell-Cell Junctions 2

B626/P2442 CAPS2 regulates secretory granule number and markers of cellular polarity in exocrine cells. S.E. Maciuba1, S.W. Messenger1, T.F. Martin1; 1Department of Biochemistry, University of Wisconsin-Madison, Madison, WI

B627/P2443 ZO family proteins regulate epithelial polarity independent of Tight Junction strand assembly. T. Otani5,6, T. Tokuda1, M. Furuse1; 1Division of Cell Structure, National Institute for Physiological Sciences, Okazaki, Aichi, Japan, 2School of Life Sciences, Department of Physiological Sciences, The Graduate University for Advanced Studies, Hayama, Kanagawa, Japan, 3Kidney Institute, KUMC School of Medicine, Kansas City, KS

B628/P2444 The tight junction protein ZO-2 negatively impacts the nuclear accumulation of Fos and AP-1, but favors that of TREAD. H. Gallego-Gutierrez1, L. Gonzalez-Gonzalez2, P. Nava1, L. Gonzalez-Mariscal1; 1Department of Physiology, Biophysics and Neuroscience, Cinvestav, Mexico City, Mexico
B629/P2445 The role of calcium in Rhodobacter sphaeroides regulation of rhodopsin

B630/P2446 Regulation of Hippo signaling by mechanical tension at cell-cell junctions.

I. Das Gupta1, D. McCoilum1; 1Biomechanics and Molecular Pharmacology, University of Massachusetts Medical School, Worcester, MA

B631/P2447 Treatment of Caco-2 Model Cells of Normal Gut Epithelium With Dietary-Regulated Polysaturated Fatty Acids Reveals a Mechanism for Aspirin Related Leaky Gut Syndrome. K.A. McGee1, J. Piletz2; 1Biology, Mississippi State University, Clinton, MS

B632/P2448 Understanding the Mis-regulation of the COP9 Signalosome in Epithelium Derived Cancers. S. Cholak1, V. Kraicz2, N.A. Najor3; 1Biology, University of Detroit Mercy, Detroit, MI

B633/P2449 Association of dynamin-2 with changes in alveolar epithelial tight junction morphology. K.S. Lynn1, B. Schlingmann1, R.M. Connelly1, S.A. Molina1, M. Koval1; 1Department of Medicine, Division of Pulmonary, Allergy, Critical Care and Sleep Medicine, Emory University, Atlanta, GA

B634/P2450 Zika virus infection changes the molecular composition of tight junctions and increases the paracellular permeability of the syncytiotrophoblast in human placenta. J. Miranda1, D. Martin-Tapia1, Y. Valdespino-Vázquez1, A. Espejel-Núñez1, M. Guzmán-Huerta2, M. Shibayama3; 1Department of Biochemistry and Cell Biology, National Autonomous University of Mexico, Mexico, Mexico, 2Department of Advanced Studies - Cinvestav, Mexico, Mexico, 2Department of Basic Sciences, University of Guadalajara, Mexico, 3Department of Molecular Pharmacology, University of Verona, Vienna, Austria

B635/P2451 Adenovirus targets gap junction expression and function to facilitate replication. P.J. Calhoun1,2, A.V. Pham1, J.D. Taylor1, C.C. James1, M.J. Zeitz1, J.W. Smyth1,2,3; 1Department of Biophysical Sciences, Virginia Polytechnic Institute and State University, Blacksburg, VA, 2Virginia Tech Carilion Research Institute and School of Medicine, Roanoke, VA, 3Graduate Program in Translational Biology, Medicine, and Health, Virginia Tech, Blacksburg, VA

B636/P2452 Oxidized LDL mediated upregulation of heat shock proteins 60 and 10 induces arechogenics in human umbilical vein endothelial cells. K. Shirsahi1, R. Devkar2; 1Department of Zoology, Faculty of Science, The Maharaja Sayajirao University of Baroda, Vadodara, India

B637/P2453 Connexin 43 is K63-polyubiquitinated on lysines 264 and 303 and regulates gap junction internalization. R.M. Kells2,3, R.A. Margraf1, C.G. Fisher1, M.M. Falk1; 1Biological Sciences, Lehigh University, Bethlehem, PA

B638/P2454 Local curvature as a modulator of endothelial cell-cell junction patency in tortuous blood vessels. C.G. Triandafillou1, R.E. Huang1, C. Aiello1, R.S. Fischer1, C.M. Waterman1; 1Biophysical Sciences, University of Chicago, IL, 2Molecular Cellular Biology, Harvard University, Cambridge, MA, 3Bioengineering, Stanford, CA, 4Cell Developmental Biology, National Heart Lung Blood Institute, Bethesda, MD

B639/P2455 Plectin Confers Mechanical Stability of Biliary Epithelium. K. Nepomucka1; 1M. Prechova1, M. Jiroušková1, O. Benada1, G. Wiche1, M. Gregor1; 1Dept. of Integrative Biology, Institute of Molecular Genetics of the ASCR, Prague, Czech Republic, 2Molecular Structure Characterization, Institute of Microbiology of the Czech Academy of Sciences, Prague, Czech Republic, 3Dept. of Biochemistry and Cell Biology, MFPL, University of Vienna, Vienna, Austria

B640/P2456 The MAL/SRF Pathway Regulates Desmosome Protein Expression and Localization in Cancer Cells. L. Eldredge1, J. Decker1, A.D. Dubash1; 1Biology, Furman University, Greenville, SC

B641/P2457 Proximity Labeling Proteomics of Desmosomes Reveals Novel Components Essential for Epidermal Integrity. K.A. Badu-Anderson1,2, J.W. Smyth1,2,3; 1Biology, University of Arizona, Tucson, AZ, 2Department of Pathology, University of Arizona Cancer Center, University of Arizona, Tucson, AZ, 3Department of Dermatology, University of Arizona, Tucson, AZ, 4Department of Pathology, University of Arizona, Tucson, AZ, 5Department of Biomedical Sciences, University of Arizona, Tucson, AZ, 6Department of Medicine, University of Arizona, Tucson, AZ

B642/P2458 Cellular connections of Schlemm’s canal endothelium in regulating segmental aqueous humor outflow of the eye. D.L. Swain1,2, Y. Liu1,2, J. Lai1, G. Lamaya1, S. Yasmia1, H. Gong1,2,3; 1Ophthalmology, Boston University School of Medicine, Boston, MA, 2Anatomy and Neurobiology, Boston University School of Medicine, Boston, MA, 3Eye Hospital, Wenzhou Medical University, Wenzhou, China

B643/P2459 Clathrin-coated plaques regulate cell migration by identifying topographical cues left by focal adhesion in the extracellular matrix. D. Bucher1, A. Cavalcanti-Adam1, S. Boulan1; 1Department of Infectious Diseases, Virology, University Hospital Heidelberg, Heidelberg, Germany, 2Growth factor mechanobiology, Max Planck Institute for medical research, Heidelberg, Germany

B644/P2460 Vinculin regulates lamellipodium protrusion velocity. C. Borau1, J.M. García Aznar1, B. Fabry1, I. Thievenssen1; 1Mechanical Engineering, University of Zaragoza Campus Rio Ebro, Zaragoza, Spain, 2Biophysics, Friedrich-Alexander-University of Erlangen-Nuremberg, Erlangen, Germany

Integrins and Cell-ECM Interactions

B645/P2461 Single molecule measurements reveal the magnitude and dynamics of force transmission at cellular integrin complexes. S.J. Tan1, A.C. Chang1, C.M. Miller1, S. Anderson2, L.S. Prath2; 1Chemical Engineering, Stanford University, Stanford, CA, 2Chemical Engineering, University of Minnesota, Twin Cities, MN

B646/P2462 Structural Paradigms of Rap1 GTPase Function in Cell Adhesion. A.R. Gingras1, F. Lagarrigue1, M.H. Ginsberg1; 1Medicine, University of California, San Diego, La Jolla, CA

B647/P2463 Dissecting matrix viscosity-dependent adhesion signalling of integrin receptor beta subunits. X. Liu1, C. Yu1; 1School of Biomedical Sciences, the University of Hong Kong, Hong Kong, China

B648/P2464 Functional characterization of integrin α6 and its splicing isoforms in breast cancer tumorigenesis. L. Li1,2, K. Jung1, P. Leclair1, A.C. Maxwell1,3, C. Liu4,5; 1Michael Cuccione Childhood Cancer Research Program, BC Children’s Hospital Research Institute, Vancouver, BC, 2Pathology and Laboratory Medicine, University of British Columbia, Vancouver, BC, 3Pediatrics, University of British Columbia, Vancouver, BC

B649/P2465 Integrin α6β4ε is an inducible dynamic adhesion splice variant in normal epithelial and endothelial cells that modifies biophysical properties of cell-cell and cell-ECM interactions. M. Wang1, J.M. Gard2, J.G. Garcia1, G.C. Rogers1,2, R.B. Nagle1, A.E. Cress1,2,6; 1Department of Pathology, University of Arizona, Tucson, AZ, 2University of Arizona Cancer Center, University of Arizona, Tucson, AZ, 3Department of Medicine, University of Arizona, Tucson, AZ, 4Department of Cellular and Molecular Medicine, University of Arizona, Tucson, AZ, 5Department of Radiation Oncology, University of Arizona, Tucson, AZ

B650/P2466 Genetically Determined Integrin α6 Variant Converts Muscle Invasive Prostate Cancer Networks into Non-Invasive Cohesive Clusters. C.P. Rubenstein1, J.M. Gard1, M. Wang1, K.W. Pond2, J.P. Hinton1, J. McGrath1, N. Ingabire1, R.B. Nagle1, C.K. Miram1,2, J.G. Garcia1, H. Tiwari5, A.E. Cress1,2; 1Cancer Biology GIDP, University of Arizona, Tucson, AZ, 2Medical Imaging, University of Arizona, Tucson, AZ, 3Radiation Oncology, University of Arizona, Tucson, AZ

B651/P2467 Extracellular Matrix Molecules Induce Aggregation, Proliferation, and Differentiation of SK-N-SH Neuroblastoma Cells. M. Sunday1, D.L. Pinto1, G. Gomez2; 1Biology, University of Scranton, Scranton, PA

Monday Poster Session

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B652/P2462 Cancer Cells’ Situational Awareness: The Mechanosensing Metabolic Shift of Invasive Breast Cells. A.E. Lefebvre1,2, E.J. Mah1,2, G.E. McGahey1, A.F. Yee1,2, M.A. Digman1,2; 1Laboratory for Fluorescence Dynamics, Irvine, CA, 2Department of Biomedical Engineering, University of California, Irvine, Irvine, CA, 3Department of Chemical Engineering and Materials Science, University of California, Irvine, Irvine, CA

B653/P2469 Integrin β1 is the master regulator of the Invadopodia state in breast cancer cells. K. Esmaeili Pourfarzad1, B. Bayrambag1, L. Perrin, B. Gligorijevic1,2; 1Bioengineering, Temple University, Philadelphia, PA, 2Cancer Biology, Fox Chase Cancer Center, Philadelphia, PA

B654/P2470 ECM Rigidity and Intercellular Interactions Cooperatively Enhance Invadopodia Activity. R.J. Jerrell1, M.J. Leih1,2, D.D. Marchlewski1, A. Parekh1,2,3; 1Otolaryngology, Vanderbilt University Medical Center, Nashville, TN, 2Vanderbilt-Ingram Cancer Center, Vanderbilt University Medical Center, Nashville, TN, 3Biomedical Engineering, Vanderbilt University, Nashville, TN

B655/P2471 Endothelial cells require Discoidin Domain Receptor 2/collagen/MT1-MMP complex for angiogenesis. R.Y. Bard1,2,3, F.A. Bard1; 1Centre for Biotechnology, University of Kent, Kent, United Kingdom, 2Department of Biological Sciences, Korea University, Daejeon, South Korea, 3Department of Otolaryngology, Vanderbilt University Medical Center, Nashville, TN

B656/P2472 Cell surface exposed calnexin and ERp57 mediate extracellular collagen degradation. F.A. Bard1, M. Ros1,2,3, F. Saltel2; 1Centre for Biotechnology, University of Kent, Kent, United Kingdom, 2School of Medicine, Tufts University, Boston, MA, 3Biology, MIT, Cambridge, MA, 4Koch Institute for Integrative Cancer Research, MIT, Cambridge, MA

B664/P2480 The PI3K Isosforms Differentially Regulate the Formation and Function of Podosome Rosettes. N.G. Dulyaninova1,2, Z. Serer-Ferengiev1, A.R. Bresnick1, J.M. Backer2,3; 2Biochemistry, Albert Einstein College of Medicine, Bronx, NY, 3Molecular Pharmacology, Albert Einstein College of Medicine, Bronx, NY

B665/P2481 A Rab40b:Cullin-5 Interaction regulates Eplin levels to control stress fiber and focal adhesion formation and affect cell migration and invasion. E. Linklater1, E.D. Duncan1, R. Prekeris1; 1Cell and Developmental Biology, University of Colorado - Anschutz Medical Campus, Denver, CO

B666/P2482 Identifying Atrazine's Effect on Human Keratinocytes. F.E. Volpe1, V. Krajcz1, R.M. Belanger1; 1Biophysics, University of Detroit Mercy, Detroit, MI

B667/P2483 Paxillin and tensin1 contribute to focal adhesion disassembly at mitosis to relieve an integrin-inactivation G2-M checkpoint. H.R. Thiam1, A.M. Pasapera-Limon1, E.K. Degaga1, J.S. Urbach2, C.M. Waterman1; 1Cell Biology and Physiology Center, National Heart Lung and Blood Institute, National Institute of Health, Bethesda, MD, 2Department of Physics and The Institute for Soft Matter Sythesis and Metrology, Georgetown University Washington, Washington, DC

B668/P2484 The laminin-derived peptide C16 regulates invadopodia activity of HT1080 cells in hypoxic conditions. R.S. Mateus1, M.U. Galheigo1, B. Smuczek1, O.M. Nora1, V.M. Freitas1, R.G. Jaeger1; 1Department of Cell and Developmental Biology, Institute of Biomedical Sciences University of Sao Paulo, Sao Paulo SP, Brazil

B669/P2475 Interrogating extracellular matrix remodeling by breast cancer spheroids using dynamic light scattering microimetry. B.A. Krajin1, A. Zhu1, A.J. Spakowitz2, S.C. Heilshorn2; 1Chemical Engineering, Stanford University, Stanford, CA, 2Materials Science and Engineering, Stanford University, Stanford, CA

B670/P2485 Selective Microautophagy of the Endoplasmic Reticulum Requires the ESCRT Machinery. J.A. Schäfer1, J. Schessner2, P.W. Bircham1, K. Schaeff1, S. Schuck2; 1Center for Molecular Biology of Heidelberg University, Heidelberg, Germany, 2Max Planck Institute of Biochemistry, Martinsried, Germany

B671/P2486 Autophagy induced by transmembrane BAX inhibitor motif containing 6 (TMBIM6). H. Kim1, H.J. Che1; 1Pharmacology, Chonbuk National University, Jeonju-si, South Korea

B672/P2487 Skeletal muscle-specific PRMT1 deletion causes muscle atrophy via deregulation of PRMT6/FOXO3 axis. S. Choi1, H. Jeong1, H. Kim2, D. Choi1, S. Koo1, J. Kang1; 1Division of Life Sciences, Korea University, Seoul, South Korea, 2Department of Molecular Cell Biology, Sungkyunkwan University School of medicine, Suwon, South Korea

B673/P2488 Autophagy during the early postnatal development of GLAST+ cells. J.N. Domino1, L. Kimavics1, N.A. Filiakova1, A.A. Vasilev1, M.V. Patrushev1; 1School of Life Science, Imamual Kant Baltic Federal University, Kaliningrad, Russia, 2Department of Genetic Research, National Research Center, Kurchatov Institute, Moscow, Russia

B674/P2489 MORC1 regulates MitF/TFE expression and lysosomal biogenesis. K.V. Asrani1, A. Sood1, H. Kaur1, S. Murali1, M. Noi1, B.K. Lam1, P. Phatak1, R. Anchoori1, Z. Khan1, C. Talbot Ir.2, M. Skaro1, T. Lotani1; 1Pathology, Johns Hopkins University School of Medicine, Baltimore, MD, 2Oncology, Johns Hopkins University School of Medicine, Baltimore, MD, 3Baltimore Veterans Affairs Medical Center, University of MD, Baltimore, MD, 4Institute for Basic Biomedical Sciences, Johns Hopkins University School of Medicine, Baltimore, MD

B675/P2490 Predicting cytotoxicity of unknown drugs by establishment of strategy to monitor Autophagic flux with imaging methods. S. Choi1, C. Kim1, O. Kanes1, Life Science, Ewha Womans University, Seoul, South Korea

B676/P2491 Genome-wide CRISPR screen identifies TME41A18 as a gene required for autophagosome formation. K. Morita1, Y. Hama1, T. Izume2, N. Tamura1, T. Ueno1, Y. Yamashita1, K. Yamakami1, K. Mimura1, H. Morishita1, W. Shihoya2, O. Nureki1, H. Mano2, N. Mizushima1; 1Biochemistry and Molecular Biology, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan, 2Biological Sciences, Graduate School of Science, The University of Tokyo, Tokyo, Japan, 3Cellular Signaling, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan, 4Research Cpe, Tokyo Medical and Dental University, Tokyo, Japan

B677/P2492 Structural and biochemical analyses of the autophagic ATG2A-WIP14 complex. S. Chowdhury1, C. Otonoi1, A. Leitner2, K. Ohashi1, A. Rudolf1, G.C. Lander1, T. Otonoi1; 1Integrative Structural and Computational Biology, The Scripps Research Institute, San Diego, CA, 2Institute of Molecular Systems Biology, Eidgenössische Technische Hochschule Zürich, Zurich, Switzerland, 3Faculty of Science, University of Zurich, Zurich, Switzerland
Chaperones, Protein Folding, and Quality Control 1

B686/P2501 Multiple cellular mechanisms maintain the liquidity of an RNA-protein condensate, stress granules. H.O. Lee, A. Schwager, S. Spann, A.A. Hyman; 1Biochemistry, University of Toronto, Toronto, ON, 2Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, Germany

B687/P2502 Mitochondria-dependent genetic buffering mechanisms of alpha-synuclein proteinopathy. R. Santhanakrishnan, I. Haider, S. Chen, R. Almazan, S. Ju, Q. Zhong; 1Biologics, Wright State University, Dayton, OH, 2Biomedical Science PhD program, Wright State University, Dayton, OH

B688/P2503 Potentiating mutations in Hsp78 rescue neurodegenerative disease toxicity in both the cytoplasm and mitochondria. R.R. Cupo, E. Augustine, J. Shorter; 1Pharmacology Graduate Group, University of California, Berkeley, CA, 2Department of Biochemistry and Biophysics, University of Pennsylvania, Philadelphia, PA

B689/P2504 From worms to humans and from proteins to organisms: the role of UBA2P2L in cell division and RNA translation. L. Cirillo, S. Abbatemarco, F. Schwager, A. Cieren, M. Gotta; 1Physiology and Metabolism, University of Geneva, Geneva, Switzerland

B690/P2505 Yeast tRNA ligase structure reveals kinetic competition between non-conventional mRNA splicing and mRNA decay. J. Peschek, P. Walter; 1Biochemistry and Molecular Biology, University of Chicago, Chicago, IL, 2Department of Biochemistry, University of California, San Diego, CA, 3Department of Molecular Biology, The University of Tokyo, Tokyo, Japan

B691/P2506 Citrus peel flavonoids prevent damage of human vascular endothelial cells induced by excessive heat stress. H. Shinchi, S. Koshiduka, K. Kato; 1Department of Biomedical Engineering, Toyo University, Saitama, Japan

B692/P2507 A prokaryotic disaggregate can switch between two modes of peptide translocation to avoid jamming. M.J. Avellaneda, K. Franke, B. Buka, A. Mogk, S.J. Tans; 1Salk Institute, La Jolla, CA

B693/P2508 Determining the correlation between proteostasis and proliferation using a proteome localization map in mammalian cells. Y. Ho, M. Morii, T. Hwa, E.J. Bennett; 1Cell and Developmental Biology, University of California- San Diego, La Jolla, CA, 2Physics, University of California - San Diego, La Jolla, CA

B694/P2509 Cell Stress Biosensors for Rapid, Live-Cell Detection of Neurotoxic and Cardiotoxic Compounds in iPSC-Derived Neurons and Cardiomyocytes. K.M. Harlen, T. Hughes, A.M. Quinn; 1Montana Molecolar, Bozeman, MT, 2Cell Biology and Neuroscience, Montana State University, Bozeman, MT

B695/P2510 Stress-sensitive phase separation regulates translation of stress-induced mRNAs. C.D. Katanski, H. Yoo, C. Iserman, E. Pilipenko, S. Alberti, D.A. Drummond; 1Biochemistry and Molecular Biology, University of Chicago, Chicago, IL, 2Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, Germany

Monday Poster Session

B696/P2511 Transient intracellular acidification is required for the core transcriptional heat shock response. C.G. Triandafillou, C.D. Katanski, A.R. Dinner, D.A. Drummond; 1Biophysical Sciences Program, University of Chicago, Chicago, IL, 2Biochemistry and Molecular Biology, University of Chicago, Chicago, IL, 3James Franck Institute, University of Chicago, Chicago, IL, 4Human Genetics, University of Chicago, Chicago, IL

B697/P2512 Profiling diverse Hsp104 homologues reveals natural disasgregases that antagonize proteotoxic misfolding events. Z.M. March, J. Shorter; 1Biochemistry and Biophysics, University of Pennsylvania, Philadelphia, PA

B698/P2513 Exploring and enhancing the metazoan disaggregate system to combat protein aggregation. E. Chuang, M. Salim, J. Shorter; 1Pharmacology Graduate Group, University of Pennsylvania, Philadelphia, PA, 2Department of Biochemistry and Biophysics, University of Pennsylvania, Philadelphia, PA

B699/P2514 ATF6 ubiquitylation is required for its transcriptional activity and degradation. C. Aivati, D.J. Thuerauf, C.C. Glembotski; 1San Diego Heart Institute, San Diego State University, San Diego, CA

B700/P2515 Identifying Cellular Pathways that Collaborate with Lysosomes to Combat Nutrient Overload. T.K. Coody; 1Biochemistry, University of Utah, Salt Lake City, UT

B701/P2516 Ubiquitin-dependent and independent quality control of misfolded hERG K+ channels at the cell surface. B. Foo, C. Barbier, J. Vasantharaban, G.L. Lukacs, A. Shnier; 1Physiology, McGill University, Montreal, QC, 2Microbiology, McGill University, Montreal, QC, 3Biochemistry, McGill University, Montreal, QC


B703/P2518 Membrane shedding in response to plasma membrane damage depends on actin-based protrusions. S. Mageswaran, W. Yang, G.J. Jensen; 1Biology and Bioengineering, California Institute of Technology, Pasadena, CA, 2Biological Chemistry, Academia Sinica, Taipei, Taiwan

B704/P2519 G-actin and tubulin cooperate to activate GADD34-dependent elf2 phosphorylation. Q. Hao, M. Preciado López, C.M. Remarcik, A. Crespiello-Casado, Y. Wong, C. Sidrauskis, D. Ron, D.L. Eaton; 1Calico Life Sciences LLC, South San Francisco, CA, 2Cambridge Institute for Medical Research, University of Cambridge, Cambridge, United Kingdom

B705/P2520 Expression of Tardigrade Intrinsically Disordered Proteins in Madin-Darby Canine Kidney Cells. M. Garibyan, E. Roman; 1Cell Biology, Bioengineering, University of California, Riverside, Riverside, CA
Mechanobiology of Cells and Tissues 1

B707/P2521 Identifying the role chemically- and mechanically-regulated intracellular calcium signaling plays in stromal tissue gap closure. S. Ghilardi1, J. Eyckmans1, A.E. Sgro1-3; 1Biological Design Center, Boston University, Boston, MA, 2Department of Biomedical Engineering, Boston University, Boston, MA, 3Wyss Institute for Biologically Inspired Engineering, Harvard University, Boston, MA, 4Department of Physics, Boston University, Boston, MA

B708/P2522 Collective electrical phase transitions in an engineered biological tissue. H.M. McNamara1,2, A.E. Cohen3,4; 1Physics, Harvard University, Cambridge, MA, 2Harvard-MIT Division of Health Sciences and Technology, Cambridge, MA, 3Chemistry and Biological Chemistry, Harvard University, Cambridge, MA, 4Department of Physics, Harvard University, Cambridge, MA

B709/P2523 Emergent hunting behaviors of the unicellular predator Lacrymaryia encoded in coordination of its active molecular systems. S.M. Coyle1,2, E.M. Flaim1, H. Li1, D. Krishnamurthy1, M. Prakash1; 1Bioengineering, Stanford, Stanford, CA

B710/P2524 Targeting SNPs in DNA Repair Genes: Towards Genome Stabilization in Chinese Hamster Ovary (CHO) Cell Lines. P.N. Spahn1,2, H. Hefzi1,2, S. Li1,3, N.E. Lewis2,3; 1Pediatrics, UC San Diego, La Jolla, CA, 2Center for Biosustainability, Novo Nordisk Foundation, La Jolla, CA, 3Bioengineering, UC San Diego, La Jolla, CA

B711/P2525 Versatile biosensing scaffold platform based on fluorescent proteins and cellublose. R.I. Dmitriev1,2, N. O’Donnell2, I.A. Okkelman1, P. Timashev1,2; 1School of Biochemistry and Cell Biology, University College Cork, Cork, Ireland, 2Institute for Regenerative medicine, I.M. Sechenov First Moscow State University, Moscow, Russia, 3Research Center Crystallography and Photonics, Institute of Photonic Technologies, Russian Academy of Sciences, Moscow, Russia

B712/P2526 Morphological and functional studies of co-cultured hepatocyte spheroids with fibroblasts in a microwell chip culture. K. Nakazawa1, D. Miyamoto1, O. Kitano1; 1Department of Life and Environment Engineering, The University of Kitakyushu, Kitakyushu, Fukuoka, Japan

B713/P2527 Embryoid body culture of mouse iPS cells using microwell chips with different oxygen permeability. D. Miyamoto1, K. Nakazawa1; 1Department of Life and Environment Engineering, The University of Kitakyushu, Kitakyushu, Japan

B714/P2528 Neuronal differentiation of NT2 cells in two-dimensional monolayer and three-dimensional spheroid cultures. O. Kitano1, D. Miyamoto1, K. Nakazawa1; 1Department of Life and Environment Engineering, The University of Kitakyushu, Kitakyushu, Japan

B715/P2529 Dependences on electrical stimulation voltage and frequency in chick embryonic cardiomyocytes. K. Fuji1, T. Kaneko1; 1Frontier Bioscience, Hosei University, Koganei, Japan

B716/P2530 Analysis of Width Depending Conduction Velocity of Line-Networked Cardiomyocytes. T. Yoshida1, T. Kaneko1; 1Frontier Bioscience, Hosei University, Koganei, Japan

B717/P2531 Evolutionary and Structural Biology of CTP Synthase Filaments. J.M. Hansen1, E. Lynch1, A. Horowitz1, J.M. Kollmann1; 1Biochemistry, The University of Washington, Seattle, WA

B718/P2532 In vitro sliding of microtubules driven by XCTK2 molecular motors: theory and experiment. S. Füthauer1, B. Lemma1,2, P.I. Foster1, C.E. Walczak1, S.C. Ems-McClung2, Z. Dorig3, D.J. Needleman1,2, M.J. Shelley1; 1Center for Computational Biology, Flatiron Institute, New York, NY, 2Department of Physics, Harvard University, Cambridge, MA, 3Department of Physics, Brandeis University, Waltham, MA

B719/P2533 Comparative evaluation on the safety of glimepiride and glipizide on the renal safety of glimepiride and glipizide on the renal oxygen permeability. D. Miyamoto1, O. Kitano1; 1Biochemistry, The University of Washington, Seattle, WA, 2Department of Physics, UC Santa Barbara, Santa Barbara, CA, 3Physics of Living Systems, MIT, Cambridge, MA, 4Department of Medical Sciences, Programa, Indiana University, Bloomington, IN, 5John A. Paulson School of Engineering, Harvard University, Cambridge, MA, 6,7FAS, Harvard University, Cambridge, MA

B720/P2534 Cell-ECM adhesion regulates morphogenesis. S. K. Lawal1,2,3, A.E. Sgro1,2,4; 1Systems Biology, Harvard Medical School, Boston, MA, 2Department of Biomedical Engineering, UC San Diego, La Jolla, CA, 3Center for Computational Biology, Flatiron Institute, New York, NY

B721/P2534 Dynamic endothelial cell – pericyle association observed by high resolution 4D intravital imaging. A.L. Seynhaeve1, T.L. ten Hagen1; 1Surgery, Erasmus MC, Rotterdam, Netherlands

B722/P2535 Cell-ECM adhesion regulates melanoblast migration during mammalian morphogenesis. A.M. Haase1, K. Wagner1, K. Goodwin1; 1Cellular Physiological Sciences, University of British Columbia, Vancouver, BC, 2Department of Chemical and Biological Engineering, Princeton University, Princeton, NJ, 3Medical Genetics, University of British Columbia, Vancouver, BC

B723/P2536 Pigment stripe formation in avian skin: Pattern ing roles of melanocytes and induction of dermal agouti. M. Inaba1, T. Jiang1, Y. Liang1, S. Tsai1, Y. Lai2, R. Widelitz2, C. Chuong2; 1Pathology, University of Southern California, Los Angeles, CA, 2Integrative Stem Cell Center, China Medical University, Taichung, Taiwan

Cell Polarity, ECM, and Cell-Cell Interactions in Development

B724/P2537 How do the semicircular canals of the inner ear form? A. Munjal1, S. Megason1; 1Systems Biology, Harvard Medical School, Boston, MA

B725/P2538 Molecular asymmetries establish tissue boundaries during Drosophila axis elongation. J.C. Yu1,2, R. Fernandez-Gonzalez1,2,3,4; 1Ted Rogers Centre for Heart Research, University of Toronto, Toronto, ON, 2Institute of Biomaterials and Biomedical Engineering, University of Toronto, Toronto, ON, 3Cell and Systems Biology, University of Toronto, Toronto, ON, 4Developmental and Stem Cell Biology, Hospital for Sick Children, Toronto, ON

B726/P2539 An in vivo RNAi screen uncovers RheGTPase signaling networks as key drivers of skin morphogenesis. M. Laurini1, N. Gomez1, A. Sendoel1, J. Leovese2, E. Fuchs1; 1The Rockefeller University, New York, NY

B727/P2540 Study of planar fission identifies polarity signaling as a link between size-scaling and size-dependent behavior. C.P. Arnold1,2, B.W. Benham-Pyle1, J.J. Lange1, A. Sánchez Alvarado1,2; 1Stowers Institute for Medical Research, Kansas City, MO, 2Howard Hughes Medical Institute, Kansas City, MO

B728/P2541 Relationships between Bazooka/ PAR3 and adherens junctions during the development and remodeling of a squamous epithelium in the Drosophila embryo. T. Ray1, T. Harris1; 1Cell and Systems Biology, University of Toronto, Toronto, ON

B729/P2542 DC-cadherin distribution across a threshold lateral plasma membrane length stabilizes Myosin II for polygonal epithelial-like geometry formation in syncytial Drosophila embryos. B. De1, R. Rikhy2; 1Biology, Indian Institute of Science Education and Research, Pune, India

B730/P2543 Mechanism of mineralized tissue formation by rat mesenchymal stem cells. Y. Kuwada1, T. Kihara1; 1Department of Life and Environment & Engineering, The University of Kitakyushu, Kitakyushu, Japan

B731/P2544 Transcriptional Response to Errors in Spindle Orientation and Effects on Tissue Growth. A.S. Parra1, C.A. Johnston1; 1Biology, University of New Mexico, Albuquerque, NM

B732/P2545 Cell-cell contact formation and Wnt/ß-catenin signalling in the sea star embryo. V. Barone1,2, D. Lyons1, M. Byrne2; 1Marine Biology Research Division, Scripps Institution of Oceanography - UC San Diego, La Jolla, CA, 2Anatomy, University of Sydney, Sydney, Australia

B733/P2546 Cadherin-11 is required for the specification and cell survival of neural crest cells. S. Manohar1, A. Camacho1, C.D. Rogers2; 1Biology, California State University Northridge, Northridge, CA
B742/P2555 Identifying directional cues that pattern planar cell polarity across the mammalian epidermis. M. Cetera1, B. Phillips1, D. Devenport2; 1Molecular Biology, Princeton University, Princeton, NJ

B743/P2556 Role of planar cell polarity-dependent distribution of apical microtubules in the coordinated ciliary beating of tracheal multiciliated cells. S. Nakayama1, E. Herawati1, M. Takagishi1, T. Torisawa1, T. Namba1, T. Yano1, A. Tamura1, S. Ishihara2, K. Oiwa1, M. Takahashi1, S. Tsukita2; 1Dept. of Bioscience, Grad. Sch. of Medicine, Osaka University, Suita-shi, Osaka, Japan, 2Faculty of Mathematics and Natural Sciences, Universitas Sebelas Maret, Surakarta, Indonesia, 3Dept. of Pathology, Grad. Sch. of Medicine, Nagoya University, Nagoya-shi, Japan. 4Advance ICT Research Institute, Nat. Inst. of Information and Communications Technology, Kobe-shi, Japan, 5Dept. of Basic Science., Grad. Sch. of Arts and Sciences, Tokyo University, Meguro-ku, Japan

B744/P2557 Rap1b regulates hematopoietic stem cell development by promoting Notch signal-mediated specification of hemogenic endothelium. S. Rho1, I. Kobayashi2, N. Mochizuki1, S. Fukuhara1; 1Department of Molecular Pathophysiology, Institute of Advanced Medical Sciences, Nippon Medical School, Kanagawa, Japan, 2Faculty of Natural System, Institute of Science and Engineering, Kanazawa University, Kanazawa, Japan, 3Department of Cell Biology, National Cerebral and Cardiovascular Center Research Institute, Osaka, Japan

B745/P2558 Asymmetric growth of PAR-3 clusters underlies symmetry breaking in the P1 cell. L. Wallach1, C.F. Lang1, E.M. Munro2; 1Molecular Genetics and Cell Biology, University of Chicago, Chicago, IL

Monday Poster Session

Institutes of Health, Bethesda, MD, 2National Human Genome Research Institute, National Institutes of Health, Bethesda, MD

B750/P2563 Sox2 Suppresses Developmental Genes Depending on GliA/Notch Modification. B. Won1,2, D. Kim1,2, E. Lee1,4, H. Jang1,2; 1Research Institute, National Cancer Center, Goyang, South Korea, 2Cancer Biomedical Science, National Cancer Center Graduate School of Cancer Science and Policy, Goyang, South Korea, 3Molecular Cell Biology, Sungkyunkwan University School of Medicine, Suwon, South Korea, 4Department of Biological Sciences, Graduate School of Convergence Science and Technology, Seoul National University, Seoul, South Korea

B751/P2564 Craniofacial cartilage organoids derived from human neural crest stem cells. L.E. Foltz1, T. Levy2, A. Possemato3, M.L. Grimes3; 1Division of Biological Sciences, The University of Montana, Missoula, MT, 2Bluefin Biomedicine, Beverly, MA

B752/P2565 MCL-1 mediated regulation of neural cell fate in early human brain development. A.I. Romero-Morales1, M. Rasmussen1, E.W. Contreras Panta1, B. O’Grady1,2, K. Balotin1, L. Bellan1,2,4, E.S. Lippmann1,4, V. Gama1,2,5; 1Cell and Developmental Biology, Vanderbilt University, Nashville, TN, 2Department of Mechanical Engineering, Vanderbilt University, Nashville, TN, 3Interdisciplinary Materials Science Program, Vanderbilt University, Nashville, TN, 4Department of Biomedical Engineering, Vanderbilt University, Nashville, TN, 5Vanderbilt Brain Institute, Vanderbilt University, Nashville, TN

B753/P2566 Regulation of renal structural formation by angiotensin II in iPSC-derived human kidney organoids. S.M. Yanofsky1, C.M. Dugas1, A. Katsurada1, S.S. El-Dahr2, Z. Saffudeen1, R. Satou1; 1Department of Physiology, and Hypertension and Renal Center of Excellence, Tulane University School of Medicine, New Orleans, LA, 2Department of Pediatrics, Tulane University School of Medicine, New Orleans, LA

B754/P2567 clun binds the Oct4 promoter to affect isoform expression and differentiation in murine embryonic stem cells. A.E. Sprowles1, R.E. Brewer2, M.M. Hosawi1, K.E. Teague2,3, M.W. Pan4, L.S. Koepke1,2, E. Zepeda1, A.J. Petersen1,3, J.R. Trzeciak1, K.M. Roell3,4; 1Biological Sciences, Humboldt State University, Arcata, CA, 2Institute for Stem Cell Biology & Regenerative Medicine, Stanford University School of Medicine, Palo Alto, CA, 3Medical School, Uniformed Services University of Health Science, Bethesda, MD, 4Pediatrics, Boston Children’s Hospital, Boston, MA

B755/P2568 Northern white rhinoceros induced pluripotent stem cells: the first step to genetic rescue of this functionally extinct species. M.L. Korody1, T. Levy2, C.A. Loring1; 1Division of Conservation Genetics, San Diego Zoo Conservation Genetics, San Diego, CA, 2National Human Genome Research Institute, National Institutes of Health, Bethesda, MD, 3Molecular Medicine, The Scripps Research Institute, La Jolla, CA

Board No./Presentation No.

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Branching Morphogenesis

**B759/P2572** Clefting Mechanisms During Salivary Gland Branching Morphogenesis. S. Wang1, J.S. Harunaga1, K.M. Yamada1; 1Cell Biology, M.G. Yera1, A. Shirazi1, B. Hayward-Piatkovsky1, J. Shirazi2, M. Bonilla1, M. Loza-Coll1; 2Department of Biology, California State University, Northridge, Northridge, CA

Primordial Germ Cells

**B769/P2582** Sphingolipids/ceramides are Localized to Embryonic P Granules and have a Role in Germline Function in *Caenorhabditis elegans*. S.D. King1; 1Biological Sciences, University of North Texas, Denton, TX

Host-Pathogen/Host-Commensal Interactions 1

**B773/P2585** Manipulation of host cholesterol in the bacterial intracellular niche. T. Clemente1, S. Benavidez4, D. Samanta1, S.D. Gilk3; 1Microbiology and Immunology, Indiana University School of Medicine, Indianapolis, IN

**B774/P2586** Changes in the biomechanics of Listeria monocytogenes infected epithelial cells limit bacterial spread through the extrusion of infected domains. E.E. Bontouinis1, J.A. Theriot1,2,3; 1Biochemistry, Stanford University School of Medicine, Stanford, CA, 2Microbiology and Immunology, Stanford University School of Medicine, Stanford, CA, 3Howard Hughes Medical Institute, Stanford, CA

**B776/P2588** Cell biology of *Listeria* translocation across the intestinal epithelium. M. Kim1; 1C. Fève2, O. Disson1, M. Lecuire1,3; 2Biology of Infection Unit, Inserm U1117, Institut Pasteur, Paris, France, 3Paris Descartes University, Department of Infectious Diseases, Necker-Enfants Malades Hospital, Paris, France

**B777/P2589** Cyclophilin-A regulates *Salmonella* Typhimurium entry into cells and is a component of pathogenic *Escherichia coli* pedestals. A.S. Dhand1, K.E. Warren1, J.A. Guttman1; 1Biological Sciences, Simon Fraser University, Burnaby, BC

**B778/P2590** Cellular exit of *Salmonella* Typhimurium by exocytosis: implications for cell-to-cell spread of infection. G.F. Walpole1,2, Z. Liu1, J.H. Brumell1, S. Gristein1,2; 1Program in Cell Biology, The Hospital for Sick Children, Toronto, ON, 2Department of Biochemistry, University of Toronto, Toronto, ON

**B779/P2591** Visualization of Paneth cell granule secretory responses to bacterial stimuli using enteroids. Y. Yokoi1, K. Nakamura1, T. Yoneda1, S. Nakamura1, M. Kikuchi1, T. Ayabe1,2; 1Graduate School of Life Science, Hokkaido University, Sapporo, Japan, 2Department of Cell Biological Science, Faculty of Advanced Life Science, Hokkaido University, Sapporo, Japan

**B780/P2592** HIV blocks type I interferon signaling through disruption of STAT1 phosphorylation. J.T. Tran1, D.J. Sanchez1; 1College of Pharmacy, Western University of Health Sciences, Pomona, CA

**B781/P2593** Role of a novel long non-coding RNA in innate immune response to influenza virus infection. J. Hu1, Y. Liao1, J. Chen1; 1College of Animal Sciences, Fujian Agriculture and Forestry University, Fuzhou City, China

**B782/P2594** Expression levels of glycoprotein O (gO) vary between strains of human cytomegalovirus, influencing the assembly of gH/gL complexes and virion infectivity. L. Zhang1, B.J. Ryckman1, M. Zhou1, R. Stanton1, J.P. Kamil1; 1Division of Biological Sciences, Biochemistry and Biophysics Program, Center for Biomolecular Structure and Dynamics, University of Montana, Missoula, MT, 2Department of Microbiology and Immunology, University of Montana, Missoula, MT, 3Division of Infection and Immunity, Cardiff University, Cardiff, United Kingdom, 4Department of Microbiology and Immunology and Center for Molecular and Tumor Virology, Louisiana State University Health Sciences Center, Shreveport, LA

**B783/P2595** Post-translational modifications of mammalian ribosomal proteins induced by virus infection. K.J. Parchett1, B.D. Carson1, J.K. Murton1, J.B. Ricken1, J.M. Hochrein1, D. Ye2; 1Sandia National Laboratories, Albuquerque, NM

**B784/P2596** Integrated Stress Regulates Gdf15-linked pro-inflammatory responses in mucosa-associated *Escherichia coli*-infected enterocytes. M. Yui1, J. Kim1, Y. Moon1; 1Laboratory of Mucosal Exposome and Biomodulation, Department of Biomedical Sciences and Biomedical Research Institute, Pusan National University, Yangsan, South Korea

**B766/P2579** Using *C. elegans* as a platform to discover conserved genes that regulate angiogenesis. P. Shukla1, L. Greenwald2,3, D.D. Shaye1; 1Physiology and Biophysics, University of Illinois at Chicago, Chicago, IL, 2Biological Sciences, Columbia University, New York, NY, 3Biochemistry and Molecular Biophysics, Columbia University, New York, NY

**B767/P2580** 3-Dimensional registration of developing nephrons reveals a stereotyped process for mammalian nephogenesis. R.K. Parvez1, N.O. Lindstrom1, S.W. Ruffins1, C. Armit1, B. Hi1, A.P. McMahon1; 1Cell Biology and Regenerative Medicine, University of Southern California, Los Angeles, CA, 2MRC Institute of Genetics Molecular Medicine, University of Edinburgh, Edinburgh, United Kingdom

**B768/P2581** Targeting Amino Acid Transporter SLC38A5 to Suppress Pathologic Neovascularization in Retinopathy of Prematurity. Z. Wang1, C. Liu2, Y. Sun2, Z. Fu3, Y. Gong1, J. Chen1; 1Ophthalmology, Boston Children's Hospital, Boston, MA

**B764/P2579** Using *C. elegans* as a platform to discover conserved genes that regulate angiogenesis. P. Shukla1, L. Greenwald2, D.D. Shaye1; 1Physiology and Biophysics, University of Illinois at Chicago, Chicago, IL, 2Biological Sciences, Columbia University, New York, NY, 3Biochemistry and Molecular Biophysics, Columbia University, New York, NY

**B765/P2578** The role of actomyosin contractility in branching morphogenesis of epithelial organs. J.M. Kim1; 1Department of Dentistry, School of Medicine, CHA University, Seongnam, South Korea

**B762/P2575** Sex matters: Characterizing hormone dependent and independent factors that relate to pulmonary vascular development. B. Hayward-Piatkovsky1, J. Shirazi1,2, S. Mod1, S.C. Pyle1, J.P. Gleghorn1; 1Biomedical Engineering, University of Delaware, Newark, DE, 2Biological Sciences, University of Delaware, Newark, DE, 3Baylor College of Medicine, Houston, TX

**B763/P2576** Mesothelial WT1 expression is a critical regulator of airway branching morphogenesis in the developing lung. R.M. Gilbert1, J.P. Gleghorn1; 1Biomedical Engineering, University of Delaware, Newark, DE

**B764/P2577** Interphase Microtubules in the Developing Mammary Epithelium. A.K. Fraser1,2, A.J. Ewald1,2; 1Cell Biology, Johns Hopkins University School of Medicine, Baltimore, MD, 2Biomedical Engineering, Johns Hopkins University School of Medicine, Baltimore, MD

**B765/P2578** The role of actomyosin contractility in branching morphogenesis of epithelial organs. J.M. Kim1; 1Department of Dentistry, School of Medicine, CHA University, Seongnam, South Korea
B786/P2598 The upside-down jellyfish Cassiopea xamachana as a model for understanding cnidian-dinoflagellate symbiosis. A. Ohdera1, C. Fan1, Y. Zheng1; 1Embryology, Carnegie Institution of Science, Baltimore, MD

B787/P2599 Determining the mechanism of Listeria monocytogenes cell-to-cell spread. P. Radhakrishnan2, P.E. Ortega1, J.A. Theriot1; 1Biophysics, Stanford University, Stanford, CA, 2Cell Biology, Stanford University, Stanford, CA; 3Biology, University of Washington, Seattle, WA

B788/P2600 MERS-CoV spike protein upregulates the expression of FGF-2 in human lung fibroblast cells. M. Chang1, B. Chang1, S. Chien1, S.C. Chang2; 1Institute of Biochemistry and Molecular Biology, National Taiwan University, Taipei, Taiwan; 2Institute of Microbiology, National Taiwan University, Taipei, Taiwan

B789/P2601 Mouse hepatitis virus restricts Erp29 mediated chaperonin pathways of gap junction protein Connexin 43 trafficking and assembly. A. BOSE1, M. Kova1, J. Das Sarma1; 1Department of Biological Sciences, Indian Institute of Science Education and Research Kolkata, Nadia, India; 2Departments of Medicine and Cell Biology, Emory University School of Medicine, Atlanta, GA

B790/P2602 Spatial regulation of CPSF6 interaction with HIV-1 is controlled by CypA. K. Lee1, J.M. Schwartz2, H. Yu1, S. Huang1, C. Yoda1, V.N. KewalRamani1; 1Center for Cancer Research, National Cancer Institute-Frederick, Frederick, MD

B791/P2603 Integration of bacterial cues by the closest living relative of animals. E. Ireland1, N. King1; 1Molecular and Cell Biology, University of California, Berkeley, Berkeley, CA

B792/P2604 Borellia burgdorferi entry to an internal compartment in various vertebrate cell types. S. Redbrook1, C. Little1, B.L. Clarke1; 1Biomedical Sciences, University of Minnesota Medical School, Duluth, MN

B793/P2605 Identification of Viperin-vMIA Interaction Domains and Their Role in Human Cytomegalovirus Infection. J. Kim1, S. Hong1, G. Kim1, J. Seo1; 1Severance Biomedical Science Institute, Brain Korea 21 PLUS Project for Medical Science, Yonsei University College of Medicine, Seoul, South Korea

B794/P2606 The Stress Polarity Signaling Pathway Resists Fusobacterium - mediated Colorectal Cancer Initiation and Progression. I.M. Sayed1,2, L.A. Swanson1, Y.R. Mittal1, Y. Dunkel1, P. Josen1, D. Sahool1, P. Ghosh1,2, S. Das1; 1Pathology, UCSD, San Diego, CA; 2Microbiology and Immunology, Assiut University, Assiut, Egypt; 3Medicine, UCSD, San Diego, CA; 4Pediatrics, UCSD, San Diego, CA; 5Cellular and Molecular Medicine, UCSD, San Diego, CA

B795/P2607 Successful transformation of Diplonema papillatum - the type species of the most diverse marine protists diplomondi. D. Faktorová1, B. Kaur1, M. Valach1, P. Keeling1, G. Burger1, J. Lukes1; 1Institute of Parasitology and Faculty of Science, Biology Center ASCR and University of South Bohemia, Ceske Budejovice, Czech Republic; 2Department of Biochemistry and Robert-Cedergren Centre for Bioinformatics and Genomics, Université de Montréal, Montreal, Canada; 3Botany Department, University of British Columbia, Vancouver, Canada

B796/P2608 Developing a Gene Transfer System for Dinoflagellates. B.N. Sprecher1, H. Zhang1, S. Lin1; 1Marine Science, University of Connecticut, Groton, CT

B797/P2609 Trophic Transfer and Potential Bioaccumulation of Titanium Dioxide Nanoparticles in Green Algae. C. Griffin1, J.A. Jordan1; 1Biology, Georgia State University, Atlanta, GA; 2Science, Gwinnett County Public School, Norcross, GA

B798/P2610 CRISPR/Cas9 gene knockout to elucidate phosphorus metabolism in marine phytoplankton. K. Zhang1, X. Lin1, Z. Zhou1, S. Lim1; 1Marine Sciences, University of Connecticut, Groton, CT; 2State Key Laboratory of Marine Environmental Science, Xiamen University, Xiamen, China; 3Key Laboratory of Tropical Biological Resources of Ministry of Education, Hainan University, Haikou, China

B799/P2611 Development of genetic tools for Perkinus species: parasites at the evolutionary interface between apicomplexan pathogens and dinoflagellate algae. E. Einarsson1, J. Zielinski1, I. Lassadi1, R.F. Waller1; 1Department of Biochemistry, University of Cambridge, Cambridge, United Kingdom

B800/P2612 Evaluation of Metabolic Responses during Lipid Starvation of an Oyster Parasite (Perkinsus marinus). K.M. Noell1, J.S. Pitula1; 1Natural Science, University of Maryland Eastern Shore, Princess Anne, MD

B801/P2613 Spatiotemporal Variation of Giardia lamblia in Ribbed Mussels (Geukensia demissa) Collected from New York City Beaches. A. Marcuzzo1, G. Mayer1; 1Biology, Manhattan College, Riverdale, NY

B802/P2614 Temporal and Spatial Prevalence of Giardia lamblia in Cossatotia virginica Collected from Orchard Beach and Soundview Park, NY in 2013. G. Perez1, D. Baik1, L. Ammirati1, G. Mayer1; 1Biology, Manhattan College, Riverdale, NY

B803/P2615 Effect of actinomycin D on the nucleolar ultrastructure of Giardia lamblia. C. Gaona1, M.L. Segura-Valdez1, L.T. Agredano1, A. Tapia1, L. Yepe2, H.I. Cruz1, L.F. Jimenez-Garcia1; 1School Science, Universidad Nacional Autónoma de México, Ciudad de México, Mexico; 2Unidad de Investigación Médica en Enfermedades Infecciosas y Parasitarias, Mexican Institute of Social Security, Ciudad de México, Mexico

B804/P2616 Characterization of the Cytochrome P450 Complement (CyPome) and functional role of plant like CYF710CL protein in Leishmania donovani. R. Bansal1, R. Madhhabula1; 1School of Life Sciences, Jawaharlal Nehru University, New Delhi, India

B805/P2617 Identification and characterization of Atg5-12/16 complex in the enteric protozoan parasite Entamoeba histolytica. K. Nakada-Tsukui1, K. Shibata1, E. Miyamoto1, T. Hashimoto1, T. Nozaki1; 1Parasitology, National Institute of Infectious Diseases, Tokyo, Japan; 2Department of Biomedical Chemistry, the University of Tokyo, Tokyo, Japan

B806/P2618 Expression of recombinant Cysteine Rich Protective Antigen of Plasmodium vivax, a potential malaria vaccine candidate. A.S. Islam1, S. Chongthamnakun1, S. Tanyaratrasikul1, P. Leangwuvwong1, W. Ngutragool1; 1Department of Molecular Medicine, Faculty of Science, Mahidol University, Bangkok, Thailand; 2Department of Anatomy, Faculty of Science, Mahidol University, Bangkok, Thailand; 3Center for Neuroscience (CNS), Faculty of Science, Mahidol University, Bangkok, Thailand; 4Department of Medicine, National Jewish Health, Denver, CO; 5Department of Microbiology and Immunology, Faculty of Tropical Medicine, Mahidol University, Bangkok, Thailand; 6Department of Molecular Tropical Medicine and Genetics, Mahidol University, Bangkok, Thailand

B807/P2619 Evolution of Parasitism and Cytoskeletal Novelty in Marine Protists. C. Nosala1, K. Hu1; 1Biology, Indiana University, Bloomington, IN

B808/P2620 Ultrastructural Evidence of Connections Between the Inner Membrane Complex and the Endoplasmic Reticulum in Toxoplasma gondii Tachyzoites. M. Attias1; 1Instituto de Biofísica Carlos Chagas Filho, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil

B809/P2621 Utilizing unicellular organisms to characterize the Hippo tumor suppressor pathway. J.E. Phillips1; 1Physiology, UT Southwestern Medical Center, Dallas, TX; 2Howard Hughes Medical Institute, Dallas, TX

B810/P2622 Studying calcium pools through P. falciparum life cycle using PFGCaMP3 parasites. L. Borges Pereira1, A. dos Anjos1, P. Bartlett1, A. Thomas1, C.R. Garcia1; 1School of Pharmaceutical Sciences/Department of Clinical and Toxicological Analyses, University of São Paulo, Sao Paulo, Brazil; 2Department of Pharmacology, Physiology and Neuroscience, Rutgers - The State University of New Jersey, Newark, NJ
B821/P2632 Effect of subchronic exposure to fluoride on induced-obesity by hyperlipidic diet in male Wistar rats. I. Hernández-Martínez1, M. Sánchez-Gutiérrez2, G. Betanzos-Cabrera3, E.O. Madrigal-Santillán1, A. Hernández-Zavala2, V. Lagunas-Ortíz2, K.F. Flores-Elizalde1, J.A. Izquierdo-Vega1; 1Academic Area of Medicine, Autonomous University of the State of Hidalgo, Pachuca, Hidalgo, Mexico, 2Section of Research and Postgraduate, National Polytechnic Institute, Mexico, Mexico.

B822/P2633 TDP-43 is required for milk lipid secretion. H. Ke1, L. Zhao1, H. Wang2, B. Jiao1; 1Chinese Academy of Sciences, Kunming Institute of Zoology, Kunming, China.

B823/P2634 Viperin Deficiency Promotes Lipid Metabolism in Adipose Tissues. J. Eom3, J. Seo1; 1Severance Biomedical Science Institute, Brain Korea 21 PLUS Project for Medical Science, Yonsei University College of Medicine, Seoul, South Korea.

B824/P2635 Cordyceps militaris mixtures affects anti-obesity in ovariectomized Sprague Dawley rats. S. Park1, G. Sim1, Y. Kim1, J. Kim1, D. Kang1, E. Lee1, D. Kim1; 1Life Sciences, Gachon University, Seongnam, South Korea.

B825/P2636 Widespread in vivo assembly of IMPDH filaments in proliferating lymphocytes. S.J. Calise1,2, G. Abbadou1, H. Kasahara1, L. Morel1; 1Department of Oral Biology, University of Florida, Gainesville, FL, 2Graduate Program in Biomedical Sciences, University of Florida, Gainesville, FL.

B826/P2637 ASC-independent caspase-1 activation in neutrophils from patients with sickle cell anemia. R. Mendonça1, F. García1, F.C. Leonardo1, S.O. Saad1, F.F. Costa1, H. Wang1, N. Conran1; 1Hematology and Hemotherapy Center, University of Campinas, Campinas, Brazil.

B827/P2638 Increased number of CD4+ CD45RO+ cells in presence of polymorphonuclear neutrophils with antigen presenting cell phenotype. F.M. Rodríguez1, C.L. Carabajal-Miotti1, S. Ruiz de Frattari1, A.H. Vargas1, N.E. Gonzalez-Silva1, I.T. Novak1; 1Institute of Cell Biology, Faculty of Medicine, National University of Cordoba, Cordoba, Argentina, 2Institute of Hematology and Hemotherapy, National University of Cordoba, Cordoba, Argentina.

B828/P2639 Dopaminergic receptors expression in human monocyte subsets and the effect of dopamine on phosphorylation of monocyte signal transducer and activator of transcription 3. F. Leite1,2, M. Cosentino1, C. Bautista1; 1Biological Sciences, California State University, Long Beach, Long Beach, CA, 2Institute for Fundamental Biomedical Research, Translational Research Institute for Metabolism and Obesity, University of Scranton, Scranton, PA.

B829/P2640 SLIT3 axis is inducible and plays an essential role for LPS-induced innate immune responses in bone marrow-derived macrophages (BMMs). E. Kim1, J. Park1, E. Lee1, B. Choi2, E. Chang1; 1Department of Biomedical Sciences, Asan Medical Center, University of Ulsan College of Medicine, Seoul, South Korea.

B830/P2641 Monoclonal Antibodies Recognizing the Immuno-Dominant Ana 3 Cashew Nut Allergen. C.P. Mattison1, B. Vant-Hull1, Y. Bren-Mattison1, C.C. Grimm1; 1Agricultural Research Service, United States Department of Agriculture, New Orleans, LA.

B831/P2642 Brazilin plays an anti-inflammatory role against LPS stimulation in RAW 264.7 cells. J. Shim1; 1Cosmetics Biotechnology, Skin Biology lab, Jecheon, Korea, South.

B832/P2643 Pulmonary surfactant protein D expression and inflammation is altered in response to MWCNT inhalation in a dose dependent manner. J. Bustamante1, C.H. Flayer1, C.A. Baustt1, E. Laing1, S.A. Tiscione1, A. Gupta2, J. Richel1, G. Baker1, M. Stout1, K. Pinkerton1, A. Haczku1, L.S. Van Winkle1; 1University of California- Davis, Davis, CA, 2Battelle, West Jefferson, OH.

B833/P2644 Multi-parametric Phenotypic THP-1 Cell Differentiation and Cytokine Secretion Assay for Evaluation of Anti-Inflammatory Compounds. E.F. Cromwell1, O. Hoeha1, B. Cho1, B. Dunstone1, N. Bristol1, C. Olsen2, O. Sirenko3; 1RD, Protein Fluidics, Inc., Burlingame, CA, 2Product Development, Molecular Devices, LLC, San Jose, CA.

B834/P2645 Astrocyte cross-talk with microglia promotes proliferation and M2-polarization of brain microglia. S. Kim1, W. Ahn1, M. Zhang1, Y. Son1; 1Department of Genetic Engineering, Kyung Hee University, Yongin-si, South Korea.

B835/P2646 Deep immunological profiling of the murine brain and spleen after high fat diet by CODEX multiplexed imaging. C. Gann1, A. Martinez-Casals2, H. Xu1, S. Kheder1, A. Archer1, J. Mulder2, N. Mitisio2, C. Williams3, E. Lundberg1,4,5, B. Ayoglu1; 1Department of Protein Science, Science for Life Laboratory, KTH Royal Institute of Technology, Stockholm, Sweden, 2Department of Neuroscience, Karolinska Institute, Stockholm, Sweden, 3Department of Biosciences and Nutrition, Science for Life Laboratory, Karolinska Institute, Stockholm, Sweden, 4Department of Genetics, Stanford University, San Francisco, CA, 5Chang Zuckerberg Biohub, San Francisco, CA.
Defining Therapeutic Targets and New Therapeutics 2

B836/P2647 Cerebral cavernous malformations create a pro-hemorrhagic microenvironment.
M.A. Lopez-Ramirez1, P. Hale1, A. Pham2, R. Girard3, T. Wyseure1, A. Yamashita1, I.A. Romero1, I.A. Awad1, M. Laurent1, M.H. Ginsberg1,2; 1Department of Medicine, University of California San Diego, La Jolla, CA, 3Department of Molecular Medicine, Scripps Research Institute, La Jolla, CA, 2Department of Life, Health, and Chemical Sciences, Biomedical Research Network, The Open University, Milton Keynes, United Kingdom

B837/P2648 A Nurr1 ligand amodiaquine alleviates symptoms and pathological events in intracerebral hemorrhage in mice.
M. Bonifacio1, A.I. Loureiro1, C. Aires1, C. Fernandes-Lopes1, F. Sousa1, N. Palma1, P. Moser1, P. Soares-da-Silva1,2,3,2; 1Department of Research, BIAL-Portela Cª, S.A, Coronado (S. Mamede S. Romão), Portugal, 2Department of Biomedicine, Unit of Pharmacology Therapeutics, Faculty of Medicine, University of Porto, Porto, Portugal, 3MedInUp – Center for Drug Discovery and Innovative Medicines, University of Porto, Porto, Portugal

B840/P2651 Pharmacodynamic and ADME evaluation of FAAH inhibitor BIA 10-2474.
M. Bonifacio1, A.I. Loureiro1, C. Aires1, C. Fernandes-Lopes1, F. Sousa1, N. Palma1, P. Moser1, P. Soares-da-Silva1,2,3,2; 1Department of Research, BIAL-Portela Cª, S.A, Coronado (S. Mamede S. Romão), Portugal, 2Department of Biomedicine, Unit of Pharmacology Therapeutics, Faculty of Medicine, University of Porto, Porto, Portugal, 3MedInUp – Center for Drug Discovery and Innovative Medicines, University of Porto, Porto, Portugal

B841/P2652 Encopsetaenoic acid-mediated inhibition of endothelial-to-mesenchymal transition decreases mesangial expansion and albuminuria in diabetic kidney disease.
A. Keynes1, T. YASUZAWA2, S. UESHIMA3,4; 1Nephrology, Kindai University Nara Hospital, Ikoma, Japan, 2Food Science and Nutrition, Faculty of Agriculture Kindai University, Nara, Japan, 3Applied Biological Chemistry, Graduate School of Agriculture Kindai University, Nara, Japan, 4Antaging Center Kindai University, Osaka, Japan

B842/P2653 Interplay Between RNA-Binding Protein HUR and NOXA4 as Novel Therapeutic Target In Diabetic Kidney Disease. O. Shi1, D. Fellers1, D.Y. Lee1, M. Bhat1, Y. Gorin1; 1Pharmacology, All India Institute of Medical Sciences, Jodhpur, India, 2Pharmacology, King George’s Medical University, Lucknow, India, 3Medicine, King George’s Medical University, Lucknow, India

B843/P2654 Linagliptin-A Dipeptidy Peptidase-IV Inhibitor on Lipid And Adipokine Level In Type 2 Diabetes Mellitus. P. Dwivedi1,2, S.S. Yadav1, S. Hussain1, K. Usman1, K.K. Pant1, S. Khatri1; 1Pharmacology, Kindai University Nara Hospital, Ikoma, Japan, 2Medicine, Kindai University Nara Hospital, Ikoma, Japan

B844/P2655 PEDF-derived peptide promotes Meibomian gland regeneration in aged mice. Y. Tsao1; 1Ophthalmology, Mackay Memorial Hospital, TAIPEI, Taiwan

B845/P2656 Impact of Microcapsule Incorporation on the Ultrastructure of Human Multipotent Mesenchymal Stromal Cells. A.G. Daminova1, R.I. Litvinova1,2, L.S. Litvinova1, V.V. Shupletsova1, O.G. Khazhiakhmatova1, K.A. Yurova1, V.V. Malashchenko1, A.S. Timin1, V.L. Kudryavtseva1, S.I. Tverdokhlebov1, G.B. Sukhorukov2,3, A.J. Gow4,5, I.A. Khlusov3,4,7, E.N. Atochina-Vasserman1,2; 1RASA Center, Kazan Federal University, Kazan, Tatarstan, 2Department of Biology, Gazi University, Ankara, Turkey, 3Chemistry, Ankara University, Ankara, Turkey, 4Department of Biomedical, Gazi University, Ankara, Turkey, 5Department of Bioengineering, Kinki University, Kinki, Japan

B846/P2657 Generation of iPSCs derived skeletal muscle cells with R155H p97/VCY mutation. A. Luzzi1, T. Chou1; 1Pediatrics/Medical Genetics, Los Angeles Biomedical Research Institute, Torrance, CA

B847/P2658 Synthesis, cytotoxic and biological activities of new partly and fully mono- and diisopropylbenzylaminophosphazenes. N. GUVEN KUZEY1, N. Asmafiliz1, L. Açıkbas2, B. Aydin1, M. Türk1, N. Çerci1; 1Department of Chemistry, Ankara University, Ankara, Turkey, 2Department of Biology, Gazi University, Ankara, Turkey, 3Department of Bioengineering, Kinki University, Kinki, Japan

B848/P2659 Feasibility of enhanced PRL-1 in placenta-derived mesenchymal stem cells by gene modification via mitochondrial function. J.J. Kim1, G. Kim1, J. Jun1, J. Jung1, S. Bae2, S. Lee3; 1Biomedical Science, CHA University, Seongnam, South Korea, 2Internal Medicine, Catholic University Medical College, Seoul, South Korea, 3Oral Pathology, Gyeonggi National University, Gyeonggi, South Korea

B849/P2660 Hair growth stimulated by conditioned media of human umbilical cord blood-derived mesenchymal stem cells is enhanced by preconditioning with transforming growth factor-beta and lithium chloride. H. Oh1, J. KWAK1, E. Jeon1; 1Research, MEDIPOST, Gyeonggi-do, South Korea

B850/P2661 Placenta derived mesenchymal stem cells restore the ovary function via enhanced anti-oxidants effects in ovarioiectomized rat model. J. Seok1, H. Shin1, H. Lee1, J. Jung1, J. Lim1, G. Kim1; 1Biomedical Science, CHA University, Seongnam, South Korea, 3Center for Non-Clinical Research Evaluation, CHA Advanced Research Institute, Seongnam, South Korea, 4Health and Environmental Science, Korea University, Seoul, South Korea

B851/P2662 Integrative Expression Analysis Identifies a Novel Interplay between CFTR and Linc-SUMF1-2 that Involves CF-associated Gene Dysregulation. S. Kamel1,2, K. Maruta3, H. Fujikawa4,5, H. Nohara1, K. Ueno-Shuto1, Y. Tasaki1, R. Nakashima1, T. Kawakami1, Y. Eto1, M. Suico1, S. Suzuki1, D.C. Grunenert1, J. Li1, H. Kai1, T. Shuto1; 1Molecular Medicine, Graduate School of Pharmaceutical Sciences, Kumamoto University, Kumamoto, Japan, 2Program for Leading Graduate School “HIGO Program”, Kumamoto University, Kumamoto, Japan, 3Laboratory of Pharmacology, Division of Life Science, Faculty of Pharmaceutical Sciences, Sojo University, Kumamoto, Japan, 4Center for Inflammation, Immunity Infection, Institute for Biomedical Sciences, Georgia State University, Atlanta, GA, 5Institute of Molecular Medicine, University of Texas Health Science Center at Houston, Houston, TX, 6Head and Neck Stem Cell Lab, University of California, San Francisco, San Francisco, CA

B852/P2663 Real-time quality control and functional assessment of mesenchymal stem cells for cellular therapies. D. Guimet1, Y. Abassi2, C. Jin2; 1Research and Development, ACEA Biosciences, San Diego, CA

B853/P2664 HDAC Inhibitors Rescue Multiple Disease-Causing CFTR Variants. F.A. Angels1, 2Molecular Medicine, Scripps Research, La Jolla, CA

B854/P2665 Effects of Lonicera Caerulea on the Development of Sperm in Heat Stress-induced Mouse. J. Kim1, Y. Kim1, D. Kang1, S. Lee2, E. Lee2, D. Kim1; 1Life Science, Gachon University, Seongnam, South Korea
Tuesday Poster Session

Learning Center, Exhibit Halls D-H

Poster Set Up
Monday 6:00-6:30 pm

Author Presentation
Odd Boards 12:00-1:30 pm
Even Boards 1:30-3:00 pm

Posters Displayed
Monday 6:30-8:00 pm
Tuesday 7:30 am-3:00 pm

Poster Tear Down
Tuesday 3:00-4:00 pm

*Tuesday Presenters: Remove all posters by 4:00 pm or they will be discarded. There will be absolutely no access to the ASCB Learning Center after 4:00 pm. No Exceptions!

Please remove your poster following your poster session if you cannot return before 4:00 pm to pick up your poster.

Board Numbers
Session Titles

B1-B20
New Technologies in Cell Biology 3
B468-B482
Establishment and Maintenance of Polarity 2

B21-B35
New Techniques in Genomics
B484-B504
Neuron Structure and Dynamics
and Proteomics
B505-B518
Neuroprotection and Regeneration

B36-B51
New Technologies in Single Molecule
B520-B535
Establishing and Maintaining Organelle
and Super-Resolution
B535-B539
Lipids and Membrane Microdomains 2

B53-878
Higher-Order Actin-Based Structures
B536-B553
Kinases and Phosphatases 2

B79-8102
Actin Related Mechanisms and Motility
B555-B569
Signaling from the PM/Cytosol
B570-B581
to the Nucleus

B103-8118
Regulation of Actin Dynamics 3
B583-B604
Mechanotransduction 2

B1120-B135
Kinesins 2
B605-B612
Intermediate Filaments

B136-8162
Dynein
B613-B638
Signaling Networks Governing Cell Migration

B164-8186
Microtubule Dynamics 2
B640-B656
Integrins and Cell-ECM Interactions 2

B188-8207
Cilia Assembly and Intraflagellar Transport
B657-B673
Structure and Function of the
B675-B692
Extracellular Matrix

B209-8228
Spindle Assembly 2
B675-B692
Chaperones, Protein Folding,
B693-B712
and Quality Control 2

B229-8245
Cytokinesis 2
B714-B727
Regulation of Aging

B246-8268
Kinetochores 2
B729-B746
Mechanobiology of Cells and Tissues 2

B269-8285
Meiosis
B747-B767
Signaling Pathways and Morphogens

B287-8307
Cancer Therapy 3
B768-B784
Cell Fate Determination

B308-8325
Cancer Stem Cells
B785-B792
Oogenesis

B326-8337
Tumor Microenvironment 2
B794-B812
Fertilization and Germline Stem Cells

B338-8355
Tumor Invasion and Metastasis 3
B813-B826
Host-Pathogen/Host-Commensal

B357-8376
Chromatin and Chromosome Organization
B828-B849
Interactions 2

B377-8381
RNA Localization and Transport
B830-B849
Prokaryotic Cell Biology 2

B383-8405
Nuclear Bodies and Dynamics
B846-B866
Muscle Structure, Function, and Disease

B406-8418
Nuclear Lamina and Laminothepicis
B847-B866
Regulation of Aging

B419-8437
Endocytic Trafficking 3
B868-B884
Mechanobiology of Cells and Tissues 2

B438-8455
Endosomes, Lysosomes, and Lysosome-
B885-B902
Signaling Pathways and Morphogens
Related Organelles 2

B456-8466
Vesicle Docking and Fusion
B903-B920
Cell Fate Determination

Poster Presentation Guidelines

- Presenters should ensure their posters are placed on the appropriate poster board for the duration of their assigned poster session and viewing. Please use the number starting with “B” for your poster board.
- Poster presenters should stand at their poster locations during the appropriate 90-minute time slot—odd board numbers, 12:00-1:30 pm or even board numbers, 1:30-3:00 pm. The specific time slot is included in the original poster notification emails sent on October 31. If presenters have to leave early, they should post a note on their boards with contact information or stating when they will be available to answer attendee questions.
- IMPORTANT! Poster presenters are solely responsible for placing and removing their poster according to the schedule provided above. If you are unable to set up your poster the evening before your session, please do so the morning of your presentation.
- Tuesday presenters must take down their posters between 3:00 pm and 4:00 pm. Posters that are not removed from their boards at the designated time or that are left in the Exhibit/Poster Hall will be discarded. No Exceptions!
- Poster presenters should not leave any items unattended at their poster board, including poster tubes, meeting bags, Programs, Poster Guides, personal items, etc. The ASCB and EMBO are not responsible for any items left in the Learning Center.
- Cameras/Photography: Cameras and all other recording devices are strictly prohibited in all session rooms, in the Learning Center, and in all poster and oral presentation sessions.
**New Technologies in Cell Biology**

**B1/P2666 Oncogenic protein detection in peri-implant oral malignancy by IP-HPLC**

M. Eo,1 M. Seo,1 Y. Cho,2 S. Kim,6 S. Lee,6 Department of Oral and Maxillofacial Surgery, Dental Research Institute, School of Dentistry, Seoul National University, Seoul, South Korea, 1Department of Oral Pathology, College of Dentistry, Gangneung-Wonju National University, Gangneung, South Korea

**Tuesday Poster Session**

**B2/P2667 Distinctive ATP production and usage by glycolytic and mitochondrial metabolism.**

Y. Kam,1 N. Romero,1 B.P. Dranka1; Cell Analysis, Agilent Technologies, Lexington, MA

**B3/P2668 New antibody mimetic targeting prostate-specific membrane antigen: from phage display to peptide-decorated nanomolar copolymer.**

K. Blazkova1,2, J. Beranova,1 P. Šača,1 J. Konvalinka1,2; Institute of Organic Chemistry and Biochemistry, Czech Academy of Sciences, Prague, Czech Republic, 1Department of Cell Biology, Charles University, Prague, Czech Republic, 2Department of Biochemistry, Charles University, Prague, Czech Republic

**B4/P2669 Synchronization process of cardiac tissue pieces measured by extracellular field potential.**

Y. Kamei1, T. Mitsui2, M. Harada4, J. Nagai1, Y. Yoshida2, T. Yonezawa2; 1Graduate School of Biomedical Sciences, Nagasaki University, Nagasaki, Japan, 2Division of Immune Regulation, Tokushima University, Tokushima, Japan, 3Department of Biochemistry, Charles University, Prague, Czech Republic

**B5/P2670 Investigation of microglia phenotype at the site of spinal cord injury of varying severity.**

Y.O. Mukhamedshina,1,2, A.R. Rizvanov,1 T.E. Fikry2; 1Department of Physic, Aoyama Gakuin University, Kanagawa, Japan

**B6/P2671 Mesenchymal Stem Cells as a Novel Therapy for Articular Cartilage Defects in Osteoarthritis Knee.**

A.K. Aggarwal1, S.R. Rajoli1, M. Prakash2, V.N. Jha3; 1Orthopaedic Surgery, Post Graduate Institute of Medical Education Research, Chandigarh, India, 2Radiodiagnosis, Post Graduate Institute of Medical Education Research, Chandigarh, India, 3Cell Analysis, Agilent Technologies, Lexington, MA

**B7/P2673 Role of Bone Marrow derived stem cells in Avascular Necrosis of Femoral Head.**

A. Aggarwal1, A.K. Aggarwal2, L. Jha3, S.K. Arora2, M. Prakash2; 1Anatomy, Post Graduate Institute of Medical Education Research, Chandigarh, India, 2Orthopaedics, Post Graduate Institute of Medical Education and Research, Chandigarh, India, 3Radiodiagnosis, Post Graduate Institute of Medical Education and Research, Chandigarh, India

**B8/P2674 Establishment of Novel reporter cells stably maintaining transcription factor-driven human secreted alkaline phosphatase expression.**

A. Kumagai1, R. Kurata1, K. Cui2, M. Harada4, J. Nagai1, Y. Yoshida1, K. Ozaki4, T. Yonezawa2; 1Graduate School of Biomedical Sciences, Nagasaki University, Nagasaki, Japan, 2Department of Biomolecular Sciences, Saga University, Saga, Japan, 3School of Chemistry, Chemical Engineering and Life Sciences, Wuhan University of Technology, Hubei, China, 4Graduate School of Information Science, Nara Institute of Science and Technology, Ikoma, Japan, 5Department of Immunology and Parasitology, University of Occupational and Environmental Health, Kitakyushu, Japan, 6Department of Neuroscience, National Institute of Neuroscience, University of Occupational and Environmental Health, Kitakyushu, Japan, 7Department of Neurosciences, National Institute of Neuroscience, University of Occupational and Environmental Health, Kitakyushu, Japan

**B9/P2675 Establishment of novel cell lines stably secreting various human IL-18 recombinant proteins.**

A. Kumagai1, K. Shimizu1, R. Kurata1, T. Uchida2, M. Harada4, J. Nagai1, Y. Yoshida1, K. Ozaki4, T. Yonezawa2; 1Graduate School of Biomedical Sciences, Nagasaki University, Nagasaki, Japan, 2Department of Immunology and Parasitology, University of Occupational and Environmental Health, Kitakyushu, Japan, 3Department of Neuroscience, National Institute of Neuroscience, University of Occupational and Environmental Health, Kitakyushu, Japan

**B10/P2676 Gene therapy for the prevention of the negative effects of weightlessness.**

P.N. Rezyvakov,1 A.N. Lisyukov,1 A.N. Lisyukov,1 I.A. Bimkumlinna1, M.S. Kuznetsov2, I.A. Pahalina2, A. Rizvanov1, R.R. Islamov2,4; 1Department of Normal anatomy, Kazan State Medical University, Kazan, Russia, 2Department of medical biology and genetics, Kazan State Medical University, Kazan, Russia, 3Department of Fundamental Medicine and Biology, Kazan Federal University, Kazan, Russia

**B11/P2677 Resemblance of hypogravitational motor syndrome pathogenesis to neuromuscular disorders.**

M.S. Kuznetsov2, A.N. Lisyukov1, P.N. Rezyvakov1, O.V. Tyapkina1, E.S. Koshpaeva2, A. Rizvanov1, R.R. Islamov2,4; 1Department of medical biology and genetics, Kazan State Medical University, Kazan, Russia, 2Department of Fundamental Medicine and Biology, Kazan Federal University, Kazan, Russia, 3Kazan Institute of Biochemistry and Biophysics of Russian Academy of Science, Kazan, Russia

**B12/P2678 Umbilical cord blood mononuclear cells for treatment of the maxillofacial area abscesses in rat.**

E.A. Agatieva1,2, A.R. Koshpaeva1,2, A.R. Rizvanov1,2,3; 1Oncogenic protein detection in peri-implant oral malignancy by IP-HPLC, M. Eo,1 M. Seo,1 Y. Cho,2 S. Kim,6 S. Lee,6 Department of Oral and Maxillofacial Surgery, Dental Research Institute, School of Dentistry, Seoul National University, Seoul, South Korea, 2Department of Oral Pathology, College of Dentistry, Gangneung-Wonju National University, Gangneung, South Korea

**B13/P2679 Pharmacokinetics of recombinant molecules in rat CNS after intrathalcal injection of mixture of adenoviral vectors carrying VEGF, GDNF and NCAM genes.**

A.A. Izmailov1, M.E. Sokolov1, V.A. Markosyan2, F.V. Bashirov2, F.O. Fadiev3, M.S. Kuznetsov2, R.R. Garafulin1, I.I. Salafutdinov1, A. Rizvanov1, R.R. Islamov2,4; 1Department of medical biology and genetics, Kazan State Medical University, Kazan, Russia, 2Department of operative surgery and topographic anatomy, Kazan State Medical University, Kazan, Russia, 3Institute of Fundamental Medicine and Biology, Kazan Federal University, Kazan, Russia, 4Institute of Biochemistry and Biophysics of Russian Academy of Science, Kazan, Russia

**B14/P2680 Direct induction of microglia-like cells from human monocytes: A novel cellular tool for translational research of neuropsychiatric disorders.**

M. Ohgahdi1, T.A. Kato1, S. Kanba1; 1Neuropsychiatry, Kyushu University, Fukuoka, Japan

**B15/P2681 Insights into the reinforced effect of bone marrow mesenchymal stem cells and thiazolidinediones on chemically induced diabetic rats.**

A. Amin1, A.A. Hamza2, E.M. Fikry1, W. Abdallah1; 1Biography Department, UAE University, Al Ain, United Arab Emirates, 2Hormone Evaluation Department, National Organization for Drug Control and Research, Giza, Egypt

**B17/P2682 The effect of interleukin 2 overexpression on the ultrastructure of human mesenchymal stem cells.**

D.S. Chulpinova1, S.S. Arkhipova1, V.V. Soloveyeva1, L.G. Tazetdinova1, A. Rizvanov1; 1Institute of Fundamental Medicine and Biology, Kazan Federal University, Kazan, Russia

**B18/P2683 Cava1 and Cava1b expression changes in co-culture of mesenchymal stem cells and neuroblastoma cells after incubation with cisplatin.**

K.K. Kitaeva1, T.S. Prudnikov2, D.S. Chulpinova1, A. Rizvanov1, V.V. Soloveyeva1; 1Institute of Fundamental Medicine and Biology, Kazan Federal University, Kazan, Russia

**B19/P2684 Hydroxyapatite nanoparticle induced modulation of the extracellular matrix.**

M. Rakshit1, A. Gautam2, H.Y. Lai3, Y.S. Lee2, T.T. Wong1,2, K.W. Ng1,2,3; 1School of Materials Science and Engineering, Nanyang Technological University, Singapore, Singapore, 2Singapore Eye Research Institute, Singapore, Singapore, 3School of Materials Science and Engineering, Nanyang Technological University, Singapore, Singapore, 4Skin Research Institute of Singapore, Singapore, Singapore
New Techniques in Genomics and Proteomics

B21/P2686 Functional mapping of yeast genomes by saturated transposition reveals a dual function for TORC1 regulator PIB2. A.H. Michel1, R. Hatakayama2, P. Kimmig1, S. van Schie3, M. Peter1, C. De Virgilio1, B. Kornmann1; 1Institute of Biochemistry, ETH Zurich, Zurich, Switzerland, 2University of Fribourg, Fribourg, Switzerland

B22/P2687 Analysis of the probiotic potential of Lysinibacillus fusiformis GM. D.S. Pudova1, M.T. Lutfullin1, G.F. Hadieva1, A.M. Mardanova1, M.R. Sharipova1; 1Institute of Fundamental Medicine and Biology, Kazan Federal University, Kazan, Russia

B24/P2689 Pooled optical screens in human cells. D. Feldman1,2, A. Singh1, J. Schmid-Burgk1, A. Mezger1, A. Garrity1, R.J. Carlson1, F. Zhang2,3, P.C. Blainey1,2,3; 1Physics, Massachusetts Institute of Technology, Cambridge, MA, 2Broad Institute, Cambridge, MA, 3Genomics, Stanford University, Stanford, CA, 4Bioengineering, Massachusetts Institute of Technology, Cambridge, MA, 5Brain and Cognitive Sciences, Massachusetts Institute of Technology, Cambridge, MA

B25/P2690 Novel insights into cellular reprogramming of primary human adipocytes into brown adipose tissue (BAT)-like cells. K.M. Cartwright1, C.E. Long1, A.M. Sferrella1, S.R. Taylor2, P.A. Harding1; 1Biology, Miami University, Oxford, OH

B26/P2691 Understanding genetic diversification and clonal selection using single-cell copy number analysis. E.I. Velazquez Villarreal1, D.W. Craig1, J.D. Carpen1; 1Translational Genomics, University of Southern California, Los Angeles, CA

B27/P2692 Evolutionary deep scanning reveals prevalent trade-offs in yeast adaptation. Y. Li1, G. sherlock2, D. Petrov1; 1Department of Biology, Stanford University, Stanford, CA, 2Department of Genetics, Stanford University, Stanford, CA

B28/P2693 Expression pattern of the PRDM family by tissue clearing technique in mouse development stage. H. Kang1, J. Woo1, Y. Cho2,3; 1Gangnam Severance Hospital, Yonsei University College of Medicine, The Spine and Spinal cord Institute, Department of Neurosurgery, Seoul, South Korea, 2Yonsei University, Brain Korea 21 PLUS Project for Medical Science, Seoul, South Korea

B29/P2694 Glyoxal fixation increases the repertoire of useful antibodies for Drosophila embryo immunohistochemistry. X. Wang1, L.R. Figard1, A.M. Sokac1; 1Department of Biosciences, Rice University, Houston, TX, 2Verna and Marrs McLean Department of Biochemistry and Molecular Biology, Baylor College of Medicine, Houston, TX

B30/P2695 Proteomic analysis of the serum antibody repertoire: a glimpse of the hidden repertoire. S. Bonisone1, A. Patel1, T. Lim1, N. Castellana1; 2Digital Proteomics LLC, San Diego, CA

B31/P2696 Elucidating HIV-1 RNA interactomes. R.A. Knower1,2, J.T. Becker1,3, E.L. Evans1,3, M. Scaff1, N.M. Sherrer1, L.M. Smith1; 1Institute for Molecular Virology, University of Wisconsin - Madison, Madison, WI, 2Chemistry, University of Wisconsin - Madison, Madison, WI, 3Institute for Molecular Virology, University of Minnesota, Minneapolis, MN

B32/P2697 Monitoring the interactions and activation of the HER family of receptor tyrosine kinases using multiplex proximity ligation assay. T. Adair-Kirk1, C. Melm1, C. Herring1, J. Day1, K. Keys1, J. Turner1; 1Research & Development, MilliporeSigma, St, Louis, MO

B33/P2698 HIV-1 Envelope N-glycan Shield. A.A. Hargett1, Q. Wei1, B. Knoppova1, S. Hall1, J. Novak1, M.B. Renfrow1; 1Biochemistry, University of Alabama at Birmingham, Birmingham, AL, 2Microbiology, University of Alabama at Birmingham, Birmingham, AL

B34/P2699 Genome-Wide Dynamic Evaluation of the UV-Induced DNA Damage Response. M.H. Michiaca1, E.N. Silva1, T. Ideker2, E. Winzeler3, S. Ottlie1, P. Jaegar4, G. Bean4; 1Medicine, University of California, San Diego, La Jolla, CA, 2Bioengineering, University of California, San Diego, La Jolla, CA, 3Division of Host-Microbe Systems Therapeutics, Department of Pediatrics, University of California, San Diego, La Jolla, CA, 4Bioinformatics and Systems Biology, University of California, San Diego, La Jolla, CA

B35/P2700 Mutational characterization and mapping of the 70S ribosomal active site. A.E. Daquino2,3, T. Azim3,3, N.A. Aleksashin1, A.J. Hockenberry1,2; 1Genetics, Stanford University, Stanford, CA, 2Bioinformatics and Systems Biology, University of California, San Diego, La Jolla, CA

B36/P2701 "Introducing a data-standard for fluorescence microscopy: increasing data quality and fidelity for biological measurements". D. Grunwald1; 1RNA Therapeutics Institute, Umass Medical School, Worcester, MA

B37/P2702 Deep learning-based compressed sensing for point scanning imaging systems. L. Fang1, T. Zhang1, M. Wu1, U. Manor1; 2Waitt Advanced Biophotonics Center, The Salk Institute, La Jolla, CA

B38/P2703 Combining 3D single molecule localization strategies for reproducible multicolor bioimaging of cell-matrix adhesion. C. Gabriel1, N. Bourg2, P. Jouhet2, G. Dupuis2, C. Leterrier1, A. Baron2, B. Vauzellels1; 1E. Fort1, S. Lévéque-Fort1; 2CNRS UMR8214, Institut des Sciences Moléculaires d’Orsay, Université Paris-Sud, Orsay, France, 3CNRS FR 2764, Université Paris-Sud, Centre de Photorique BioMédicale, Fédération LUMAT, Orsay, France, 4CNRS, INP UMR7051, NeuroCyto, Aix Marseille Université, Marseille, France, 5CNRS, Centre de Recherche de GIF, Institut de Chimie des Substances Naturelles, GIF sur yvette, France, 6CNRS, PSL Research Institute, Université Languelin, ESPCI ParisTech, Paris, France

B39/P2704 Studying Jnk2 oligomerization in live cells by a 3D single-molecule tracking technique. Y. Chen1, T.S. Kauod2, Y. Chang3, T.D. Nguyen4, Y. Kuo1, K.N. Dalby5, T. Yeh6; 1Department of Biomedical Engineering, University of Texas at Austin, Austin, TX, 2Department of Mechanical Engineering, University of Texas at Austin, Austin, TX, 3Department of Pharmaceutical Sciences, University of Texas at Austin, Austin, TX, 4Department of Health, Bethesda, MD, 5Department of Biomedical Imaging and Bioengineering, National Institutes of Health, Bethesda, MD, 6Department of Mechanical Engineering, University of Texas at Austin, Austin, TX

B40/P2705 Minimizing ATP depletion by oxygen scavengers for single-molecule fluorescence imaging in live cells. S. Jung1,2, Y. Deng3, C. Kushneriec, L.C. Asbury1, B. Hille1, D. Kohn1; 1PHYSIOLOGY BIOPHYSICS, University of Washington, Seattle, WA, 2Chemistry, University of Washington, Seattle, WA, 3Fisiologia e Biofisica, ICB/Universidade Federal de Minas Gerais, Belo Horizonte, Brazil

B41/P2706 Caveolin-1 Domain Characterization Using Machine Learning and Graphlet Analysis of Single Molecule Super Resolution Microscopy. I.M. Khater1, F. Meng1, I.R. Nabi1, G. Hamarneh1; 1School of Computing Science, Simon Fraser University, Burnaby, BC, 2Academia Life Science/Microscopy Business Group, Carl Zeiss (Shanghai) Co., Ltd., Shanghai, China, 3Department of Cellular and Physiological Sciences, Life Sciences Institute, University of British Columbia, Vancouver, BC

B42/P2707 Modular Structure of Caveolin-1 Scaffolds and Caveolae Identified by Single Molecule Localization Microscopy. I.M. Khater1, Q. Liu1, K.C. Chou1, G. Hamarneh1, I.R. Nabi2; 1School of Computing Science, Simon Fraser University, Burnaby, BC, 2Department of Chemistry, University of British Columbia, Vancouver, BC, 3Department of Cellular and Physiological Sciences, Life Sciences Institute, University of British Columbia, Vancouver, BC

B43/P2708 Multi-modal Super-Resolution Microscopy through Super-Resolution Radial Fluctuations (SRRF). J.T. Cooper1, J.B. Oleske2; 1Andor Technology, Concord, MA

B44/P2709 Deep learning enables long-term, gentle super resolution imaging. H. Sasaki1, J. Chen2, Y. Su3, C. Huang1, J.S. Lee1, H. Shroff1,2, L.A. Lucas1; 1DRVision Technologies LLC, Bellevue, WA, 2Advanced Imaging and Microscopy Resource, National Institutes of Health, Bethesda, MD, 3Section on High Resolution Optical Imaging, National Institute of Biomedical Imaging and Bioengineering, Bethesda, MD
Higher-Order Actin-Based Structures

B53/P2717 Dymanic functions as an actin-bundling protein to promote invasive protrusions during cell-cell fusion. R. Zhang1, N. Gerassimov2, D.M. Lee1, S. Kim1, D. Luvsanjavi1, M. Mettlen3, R. Kalia4, J. Kim1, J.A. Ditlev4, M.K. Rosen1, A. Frost4, G. Zhang4, S.L. Schmidt3, E.H. Chen1,2, Department of Molecular Biology, UT Southwestern Medical Center, Dallas, TX, 3Department of Cell Biology, UT Southwestern Medical Center, Dallas, TX, 4Department of Biochemistry and Biophysics, University of California, San Francisco, San Francisco, CA.

B54/P2718 Non-muscle Myosin II contraction sclupts apical protrusions of mucosal epithelial cells. A.P. van Loon1, I. Erofeev2, A. Goryachev1, A. Sagasti1,2, Molecular Biology Institute, University of California, Los Angeles, Los Angeles, CA, 3Institute of Cell Biology, The University of Edinburgh, Edinburgh, United Kingdom, 4Department of Molecular, Cellular and Developmental Biology, University of California, Los Angeles, Los Angeles, CA.

B55/P2719 Actomyosin assembly in somatic cell bundles mature spermatid heads, facilitating sperm release in Drosophila testis. T. Kapoor1, P. Dubei1, K. Ray1, Department of Biological Sciences, Tata Institute of Fundamental Research, Mumbai, India.

B56/P2720 A single tyrosine phosphorylation site in cortactin is important for filopodia formation in neuronal growth cones. Y. Ren1, Y. He1, S.L. Brown2, M.J. Mlodziannoski2, D. Ma3, M. Casella1, B. Decourt1, F. Huang1, S. Mattoo2, D.M. Suter1, 3Biological Sciences, Purdue University, West Lafayette, IN, 4Weldon School of Biomedical Engineering, Purdue University, West Lafayette, IN.

B57/P2721 Isoform switch of Tks5 governs invadopodium formation to propel myoblast fusion. Y. Liu1,2, M. Chuang3, S. Lin1, R.L. Ohniva1, Y. Chao4, 1Institute of Molecular Medicine, National Taiwan University, Taipei, Taiwan, 2Center of Precision Medicine, National Taiwan University, Taipei, Taiwan, 3Faculty of Medicine, University of Tsukuba, Tsukuba, Japan.

B58/P2722 Mapping of tunneling nanotubes using correlative cryo-electron microscopy reveals a novel structure. D. Cordero1, A. Sartori-Ruppi2, A. Pepe1, E. Delage1, K. Goussset1, S. Corroyer-Dulmont2, 1Department of Cancer Cell Biology, Institut Curie, Paris, France, 2Section of Imaging and Cell Biology, Institut Pasteur, Paris, France.

B59/P2723 Actomyosin stress fiber subtypes have distinct viscoelastic properties and roles in cytoskeletal tension generation. S. Lee1, E. Kassianidou1, S. Kumar1,2, 1Graduate Program in Bioengineering, UC Berkeley-UCSF, Berkeley, CA, 2Bioengineering, UC Berkeley, Berkeley, CA, 3Chemical and Biomolecular Engineering, UC Berkeley, Berkeley, CA.

B60/P2724 Actin dynamics drive micrvoirill motility and clustering during brush border assembly. L.M. Meenderink1, M.J. Tyska2, 1Internal Medicine, Division of Infectious Diseases, Vanderbilt University Medical Center, Nashville, TN, 2Cell and Developmental Biology, Vanderbilt University, Nashville, TN.

B61/P2725 Filopodia-like connections between pancreatic cancer cells in human tumors. C.J. Latorio1, C. Howarth1, H.N. Higgs1, 1Biochemistry and cell biology, Dartmouth College, Hanover, NH.

B62/P2726 Dual-function of beta-catenin antagonically regulates bile canaliculi formation via Fascl1 in tumor hepatocytes. C. Gest1, S. Sena2, L. Payson3, L. Piquet3, T. Robbe1, V. Neaud1, N. Courtot1, F. Salte1, V. Lagrée1, V. Moreau1, 1U1053 BaRIToN, INSERM, Bordeaux, France.

B63/P2727 Dynamic properties of intercellular membrane tubules, filiodia-like structures connecting pancreatic cancer cells. C.H. Howarth1, C.J. Latario1, H.N. Higgs1, 1Biochemistry and cell biology, Dartmouth College, Hanover, NH.

B64/P2728 Microtubules and the +TIPs EB1 and CLIP-190 regulate actin cable initiation, growth, and organization during Drosophila oogenesis. A.E. Leslie1, R. Jaiswal1, J.L. Henty-Ridilla1, B.L. Goode2, B.M. McCarthy3, 1Biological Sciences, Carnegie Mellon University, Pittsburgh, PA, 2Biology, Brandeis University, Waltham, MA.

B65/P2729 F-actin forms dynamic clusters in the spectrin-actin network at the red blood cell membrane. R.B. Nowak1, A.S. Smith1, V.M. Fowler2, 1Department of Molecular Medicine, The Scripps Research Institute, La Jolla, CA.

B66/P2730 Actin organization around sites of clathrin-mediated endocytosis revealed by cryo-electron tomography. D. Serwa1, M. Akamatsu1, K.M. Davies2, D.G. Drubin3, 1Department of Molecular and Cell Biology, University of California Berkeley, Berkeley, CA, 2Molecular Biophysics and Integrated Biomaging Division, Lawrence Berkeley National Laboratory, Berkeley, CA.

B67/P2731 The role of Lamellipodin in clustering Ena/VASP at leading-edge filopodia. K.W. Cheng1, R.D. Mullins2, 1Department of Molecular Medicine, University of California, San Francisco, San Francisco, CA, 2Howard Hughes Medical Institute, San Francisco, CA.

B68/P2732 Baculovirus actin rearrangement inducing factor-1 (Arif-1) induces formation of dynamic podosome-like structures in infected insect cells. D.I. Lauko1, T. Ohkawa2, M.D. Welch2, 1Plant and Microbial Biology, University of California Berkeley, Berkeley, CA, 2Microbial and Cell Biology, University of California Berkeley, Berkeley, CA.

B69/P2733 Characterizing interactions between the microtubule binding protein CLIP-170 and actin. Y.O. Wu1, E.O. Alberico1, R.A. Millar1, E.M. Barron1, E.J. Jonasson1, H.V. Goodson1, 1Department of Chemistry and Biochemistry, University of Notre Dame, Notre Dame, IN, 2Integrated Biomedical Sciences Graduate Program, University of Notre Dame, Notre Dame, IN.
Actin Related Mechanics and Motility

B96/P1927 Exploratory and transdisciplinary research on cells and humans bodies motion in architectural environments. M. Bonnefoy1,2, P. Moreau1, S. Gabriele1, T. Boudu1, P. Liveneau1, M. Ballard1;1Digital RD: Research by Design Laboratory, Laboratoire Cresson (CNRS), Grenoble, France, 2Physics, Laboratoire Interdisciplinaire de Physique (CNRS), Grenoble, France, 3Mechanobiology & Soft Matter, Laboratoire Interfaces et Fluides Complexes, Mons, Belgium

B79/P2743 POPX2 interacts with Coronin 1C and regulates its cellular localization at cell protrusions. P. Kim1, C. Koh1; 1School of Biological Science, Nanyang Technological University, SINGAPORE, Singapore

B80/P2744 Non-muscle myosin II A mutations associated with MYH9-related disorders result in coagulation defects due to impaired megakaryocyte migration in bone marrow niches. K. Pål1, R.B. Nowak1, V.M. Fowler1; 1Molecular Medicine, The Scripps Research Institute, La Jolla, CA

B81/P2745 Neutrophil-like HL-60 cells expressing only GFP-tagged β-actin exhibit normal motility. R.M. Ganner1,2, G. Skarhach1; 1A. Hadjitheodorou1, M.J. Footer2, J.A. Theriot3,4,5; 1Biological University of Washington, Seattle, WA, 2Biophysics Program, Stanford University, Stanford, CA, 3Biochemistry, Stanford University, Stanford, CA, 4Bioengineering, Stanford University, Stanford, CA, 5Howard Hughes Medical Institute, Stanford University, Stanford, CA, 6Microbiology and Immunology, Stanford University, Stanford, CA

B82/P2746 Profilin oligomerization negatively regulates formin-mediated actin assembly in plant immunity. H. Sun1, Z. Qiao1, X. Liu1, Y. Gao1, X. Hour1, Y. Miao1,2; 1School of Biological Sciences, Nanyang Technological University, Singapore, Singapore, 2South China Botanical Garden, Chinese Academy of Sciences, Guangzhou, China, 3School of Chemical and Biomedical Engineering, Nanyang Technological University, Singapore, Singapore

B83/P2747 Investigating the roles of Fascin in collective cell migration using Drosophila border cell migration. M.C. Lamb1, K. Anilkier1, T.L. Tootle1; 1Anatomy and Cell Biology, University of Iowa, Iowa City, IA

B84/P2748 Regulation of the actin cytoskeleton in a contractile tissue. A.C. Wirshing1, C.A. Keller1, R. Zaidel-Bar1, E.J. Cram1; 1Biology, Northeastern University, Boston, MA, 2Cell and Developmental Biology, Tel Aviv University, Tel Aviv, Israel

B85/P2749 Extracellular matrix protein microapatteming for whole-cell cryoelectron microscopy studies. L. Engel1, G. Giaietta1, L.P. Dow1,2, N. Volkmann1, W.I. Weis1; 1Bioengineering, Stanford University, Stanford, CA, 2Bioinformatics and Systems Biology Program, Sanford Burnham Medical Research Institute, La Jolla, CA, 3BioMolecular Science and Engineering, University of California, Santa Barbara, 4School of Medicine and Departments of Structural Biology and Molecular and Cellular Physiology, Stanford University, Stanford, CA, 5Mechanical Engineering and Molecular, Cellular, and Developmental Biology, University of California, Santa Barbara, Santa Barbara, CA

B86/P2750 Stiffness-induced remodeling of nanoscale actin architecture controls mesoscale connectivity and degradative capacity of invadosomes. K. van den Dries1, L. Nahidiazar1,2; 1Biological University of California, Santa Barbara, Santa Barbara, CA, 2Department of Anatomy and Cell Biology, University of California, Davis, CA, 3Department of Applied Chemistry, Graduate School of Engineering, University of Tokyo, Tokyo, Japan

B87/P2751 Resolving the 3D nano-architecture of actin networks at the leading edge of cells. J.A. Galbraith1, J. Aaron1, G. Shetengel1, H. Hess1, C.G. Galbraith1; 1Spatial Systems Biomedicine, Oregon Health Science University, Portland, OR, 2Janelia Research Campus, Howard Hughes Medical Institute, Ashburn, VA

B88/P2752 The single turnover mechanism of WDS proteins may limit linear filament nucleation by Arp2/3 complex. C.J. Balzer1, A.R. Wagner1, J.A. Fransen 4, B.J. Nolen1; 1Department of Chemistry and Biochemistry, University of Oregon, Eugene, OR, 2Department of Biochemistry, University of Washington, Seattle, WA

B89/P2753 Mild hyperthermia enhances myeloid cells migration by inducing WIP-dependent changes in lipid membrane fluidity. M. Ciccioli1, R.C. Diaz Cuffini1, F. Elortza1, G. Barreda1, J.A. Fernandez1, I.M. Anton1, Y. Calle1; 1Life Sciences, University of Roehampton, London, United Kingdom, 2CIC Biogune, Zamudio, Spain, 3Department of Physical Chemistry, University of the Basque Country, Leioa, Spain, 4Department of Cellular and Molecular Department, National Center for Biotechnology – CSIC, Madrid, Spain

B90/P2754 Profilin-1 maintains homeostatic control over the polymerization of discrete actin networks. K. Skruber1, N. Imtiaz1, J.L. Henty-Ridilla1, E.A. Vitriol1; 1Department of Anatomy and Cell Biology, University of Florida, Gainesville, FL, 2Department of Cell and Developmental Biology, State University of New York Upstate Medical University, Syracuse, NY

B91/P2755 The Abl2 nonreceptor tyrosine kinase promotes Arp2/3 complex-mediated actin branching. J. Bircher1, J. Shaw1, A.J. Koleske1,2; 1Department of Molecular Biophysics and Biochemistry, Yale University, New Haven, CT, 2Biochemistry, Neuroscience, Yale University, New Haven, CT

B92/P2756 Gradient-reading and mechano-effector machinery for netrin-1-induced axon guidance. K. Baba1, W. Yoshida1, M. Toriyama1, T. Shimada1, C.F. Manning1, M. Saito1, K. Kohno1, J.S. Trimmer2, R. Watanabe1, N. Inagaki1; 1Biological science, Nara institute of science and technology, Ikoma, Nara, Japan, 2Department of Neurobiology, Physiology and Behavior, University of California, Davis, CA, 3Department of Applied Chemistry, Graduate School of Engineering, University of Tokyo, Tokyo, Japan

Tuesday Poster Session

Biology, Radboud University Medical Center, Nijmegen, Netherlands, 2Division of Cell Biology, The Netherlands Cancer Institute, Amsterdam, Netherlands, 3van Leeuwenhoek Centre of Advanced Microscopy, Amsterdam, Netherlands, 4Pathology, Optical imaging center, Erasmus MC, Rotterdam, Netherlands, 5Physics and Astronomy, Pathology, University of New Mexico, Albuquerque, NM, 6EMBL Australia Node in Single Molecule Science and ARC Centre of Excellence in Advanced Molecular Imaging, University of New South Wales, Sydney, Australia, 7Radiotherapy Oncology Laboratory, Radboud University Medical Center, Nijmegen, Netherlands, 8Physics and Chemistry, McGill University, Montreal, Canada
Regulation of Actin Dynamics 3

B103/P2767 The scaffold protein RACK1 modulates F-actin dynamics and calcium mobilization during regulated secretion. E.G. Freitas Filho1, H.L. Ong1, I. Ambudkar1, C. Oliver1, M.C. Jamur1; 1Department of Cell and Molecular Biology and Pathogenic Bioagents, Ribeirão Preto Medical School, Ribeirão Preto, Brazil, 2Secretory Physiology Section, Molecular Physiology and Therapeutics Branch, NIDCR - NIH, Bethesda, MD

B104/P2768 Protein N-terminal acetylation & actin - when the most abundant protein modification meets the most abundant cellular protein: a new player in cytokinetic dynamics and cell motility. T. Arnesen1,2; 1Department of Biomedicine, University of Bergen, Bergen, Norway, 2Department of Biosciences, University of Bergen, Bergen, Norway, 3Department of Surgery, Haukeland University Hospital, Bergen, Norway

B105/P2769 Investigating the influence of microtubule-severing enzyme Fidgetin-like 2 on lamellipodial actin dynamics. K. Smart1,2; 1Cancer Biology, Institute for Integrative Biology of the Research Centre of the Li Ka Shing Knowledge Institute, Toronto, ON, 3Keenan Research Centre of the Li Ka Shing Knowledge Institute, Toronto, ON, 2Advanced Imaging Center, Harvard Medical School, Boston, United States

B106/P2770 Enteropathogenic E. coli relies on collaboration between the formin mDia1 and the Arp2/3 complex for actin pedestal biogenesis and maintenance. K.B. Velle1, K. Campbellone1; 1Molecular and Cell Biology, University of Connecticut, Storrs, CT, 2Biology, University of Massachusetts-Amherst, Amherst, MA

B107/P2771 NCKIPSD tunes the balance between formin mDia1 rapid elongation and Arp2/3 branching in the cell cortex. L. Cao1, A. Yonis2; 1, 2Physics, Syracuse University, Syracuse, NY

B98/P2762 F-actin mediated membrane protrusions on excitable (INS-1) cells nucleated by Arp2/3 are motile as revealed by TIRF-SIM super resolution real time live cell imaging. T.U. Woeller1, E. Wait1, M.C. Gandikota1, J.M. Schwartz1, T. Chey2, G.M. Langford3; 1Biological Science, Carnegie Mellon University, Pittsburgh, PA, 2Physics, University of California, Berkeley, CA, 3Advanced Imaging Center, HHMI J. Chang2,4; 1College of Medicine, Inha University, Gyeonggi-do, South Korea, 2Advanced Imaging Center, HHHI J. Blackstone2, C. Blackstone2, P. Zhu2, M. Smith2, P. Chugh2, M. Bohec2, L. Cao2, M. Vaghela2, P. P. Chugh2, P. Bohec2, M. Smith2, P. Zhu2, M. Vaghela2, P. P. Chugh2, P. Bohec2, M. Smith2, 4Cancer, Université de Montréal, Montréal, Quebec, Canada

B108/P2772 SPGB spastic paraplegia mutations impair CAV1-integrin-mediated cell adhesion. S. Lee1,2, R.H. Roda3, P. Zhu4, C. Blackstone5, J. Chang6; 1College of Medicine, Inha University, Incheon, South Korea, 2National Institute of Neurological Disorders and Stroke, National Institutes of Health, Bethesda, MD, 3Department of Neurology, Johns Hopkins University School of Medicine, Baltimore, MD, 4School of Medicine, Ajou University, Suwon, South Korea

B109/P2773 Interactions between microtubule-actin crossing linking factor 3 (MACF1) and Ca2+ during cancer cell migration. T. Lin1, D. Li1; 1Department of Pharmacology, National Taiwan University College of Medicine, Taipei, Taiwan, 2Department of Internal Medicine, National Taiwan University Hospital, Taipei, Taiwan

B110/P2774 Characterization of CARMIL-GAP, a Dictyostelium CARMIL isoform harboring a GTPase activating domain for Rac. G. Jung1; 1Biological Science, Carnegie Mellon University, Pittsburgh, PA, 2Physics, University of California, Berkeley, CA, 3Advanced Imaging Center, HHMI J. Chang2,4; 1College of Medicine, Inha University, Gyeonggi-do, South Korea, 2Advanced Imaging Center, HHHI J. Blackstone2, C. Blackstone2, P. Zhu2, M. Smith2, P. Chugh2, M. Bohec2, M. Vaghela2, P. P. Chugh2, P. Bohec2, M. Smith2, P. Zhu2, M. Vaghela2, P. P. Chugh2, P. Bohec2, M. Smith2, 4Cancer, Université de Montréal, Montréal, Quebec, Canada

B111/P2775 The contribution of mTORC2 to cytoskeleton organization in oligodendrocytes during myelination. K.D. Dahl1, H.A. Hathaway2, W.B. Macklin1; 1Cell and Developmental Biology, University of Colorado Anschutz Medical Campus, Aurora, CO, 2Department of Neuroscience, University of Colorado, Denver, CO

B112/P2776 GJA1-20K, a Truncated Isoform of Connexin 43, Nucleates Actin Spheres and Stabilizes Actin Filaments. R. Baum1, D. Shimura2, S. Xiao1, T. Hong2,3, R.M. Shaw2,3; 1Smidt Heart Institute, Cedars-Sinai Medical Center, Los Angeles, CA, 2Medicine, UCLA, Los Angeles, CA
Kinesins 2

B120/P2783 Functional interactions between kinesin-1 and myosin-V control Drosophila posterior determination. W. Lu1, M. Lakonishok1, A. Rich1, M. Glotzer2, V.G. Gelfand2; 1Cell and Molecular Biology, Northwestern Univ. Feinberg School of Medicine, Chicago, IL, 2Molecular Genetics and Cell Biology, University of Chicago, Chicago, IL

B121/P2784 The atypical kinesin KIF26A facilitates termination of nociceptive responses by sequestering focal adhesion kinase. L. Wang1, Y. Tanaka1, D. Wang1, M. Morikawa1, R. Zhou1, N. Homma1, Y. Miyamoto1, N. Hirokawa1,2; 1Dept Cell Biol Anat, Univ Tokyo Grad Sch Med, Tokyo, Japan, 2CeGMR, KAU, Jeddah, Saudi Arabia

B122/P2785 KIF1Bbeta mutations detected in hereditary neuropathy impair IGFIR transport and axon growth. F. Xu1, H. Takahashi1, Y. Tanaka1, S. Ichinose1, S. Niwa1, M.P. Wicklund1, N. Hirokawa1; 1Dept Cell Biol Anat, Univ Tokyo Grad Sch Med, Tokyo, Japan, 2Dept Neurology, Penn State Hershey Medical Center, Hershey, PA, 3CeGMR, KAU, Jeddah, Saudi Arabia

B123/P2786 CENP-E Kinesin Facilitates Chemokine Ligand CCL18 Translocation to Medullary thymic epithelial cells. Robert Pogoda1, S. Mathieu2, A. Kasri2, B. Goud2, P. A. B. Park, FL

B130/P2793 The Role of Kif19 in Cell Migration, Microtubule, and Focal Adhesion Dynamics. S. Eisenberg1; 1Physiology and Biophysics, Albert Einstein College of Medicine, Bronx, NY

B131/P2794 A Tail-Motor Domain Interaction Regulates Kinesin-5 Antiparallel Microtubule Sliding Motility. T. Bodrug1, E.M. Wilson-Kubalek1, J. Major2, R.A. Milligan3, S.S. Rosenfeld1, J. Al-Bassam2; 1Molecular Cellular Biology, University of California, Davis, Davis, CA, 2Cell Biology, The Scripps Research Institute, La Jolla, CA, 3Department of Pharmacology, The Mayo Clinic, Jacksonville, FL

B132/P2795 Roles of HSP70 on Eg5 functions. C. Fang1,2, L. Yhi3; 1Department of Life Science, National Taiwan University, Taipei City, Taiwan, 2Institute of Cell and Organismic Biology, Academia Sinica, Taipei, Taiwan

B133/P2796 Does giraffe kinesin move faster than mouse? T. Kambara1, Y. Okada1,2; 1Center for Biosystems Dynamics Research, RIKEN, Saita, Japan, 2Department of Physics, The University of Tokyo, Tokyo, Japan

B134/P2797 Binding Kinetics Between Membrane-bound Kinesin Motors and Microtubules. R. Jiang1, S. Park1, S.R. Vandal1, E. Tuzel1, S. Majd1, W.O. Hancock1,2; 1Intercell Program in Integrative and Biomedical Physiology, Pennsylvania State University, University Park, PA, 2Department of Biomedical Engineering, Pennsylvania State University, University Park, PA, 3Department of Physics, Worcester Polytechnic Institute, Worcester, MA, 4Department of Biomedical Engineering, University of Houston, Houston, TX

B135/P2798 Chromokinesins NOD and Kid Use Distinct ATPase Mechanisms and Microtubule Interactions to Perform a Similar Function. B.C. Walker1, J.C. Cochran1; 1Molecular and Cellular Biochemistry, Indiana University, Bloomington, IN

Dynein

B136/P2799 A quantitative model for BicD2/cargo interactions. K.M. Loftus1, H. Cui2, C.R. Noell1, C. Grewer1, E.W. Debler1, S.R. Solmaz2,3; 1Department of Chemistry, State University of New York at Binghamton, Binghamton, NY, 2Department of Biochemistry, Molecular Biology, Thomas Jefferson University, Philadelphia, PA

B137/P2800 Characterization of human disease mutations of dynein adaptor Bicaudal D2 provide insights into possible causes for spinal muscular atrophy. C.R. Noell1, J.V. Loh1, K.M. Loftus1, B.B. Russ1, E.W. Debler1, P. Goyal1, S.R. Solmaz2,3; 1Chemistry, Binghamton University, Vestal, NY, 2Biochemistry Molecular Biology, Thomas Jefferson University, Philadelphia, PA

B138/P2801 A Novel Nesprin 2-BicD2 Nuclear Envelope Recruitment Mechanism for Dynein involved in Neuronal Motility. J.C. Cain1, N.N. Townsend1; 1Molecular and Cell Biology, University of Virginia, Charlottesville, VA

B139/P2802 Membrane-associated septin 9 (SEPT9) promotes dynein recruitment and dynein-driven transport. I. Kesissova1, E. Spiliotis1; 1Biology, Drexel University, Philadelphia, PA

B140/P2803 Cytoplasmic nuclear envelope tethering and microtubule motor-based forces collaborate in positioning centrosomes during mitotic entry. V. Boudreau1, R. Chen1, A. Edwards1, M. Sulaiman1, P.S. Maddox2; 1Biology, University of North Carolina at Chapel Hill, Chapel Hill, NC

B141/P2804 Kinocentore Dynein Orientes Chromosomes for Segregation. B. Prevo1, A. Desai1; 1Department of Cellular and Molecular Medicine, Ludwig Institute for Cancer Research, San Diego, CA

B142/P2805 Dynin activator Hook1 is required for trafficking of BDNF-signaling endosomes in neurons. M.A. Olenick1, R. Dominguez2, E.L. Holzbaur1; 1Biochemistry and Molecular Biophysics Graduate Group, University of Pennsylvania, Philadelphia, PA, 2Dept of Physiology, University of Pennsylvania, Philadelphia, PA

B143/P2806 RILP is a Scaffold for Opposite Polarity Motors. A.A. Kendrick1, W.B. Redwine1, L. Pontano Vale12, P.T. Tran3, J.W. Harper2, S.L. Reck-Peterson1, 2Department of Cellular and Molecular Medicine, University of California San Diego, La Jolla, CA, 3Department of Cell Biology, Harvard Medical School, Boston, MA, 4Division of Biological Sciences, Cell and Developmental Biology Section, University of California San Diego, La Jolla, CA

B145/P2808 Cargo Adaptors Regulate the Mechanical Properties of the Mammalian Dynein-Dynactin Complex. J. Canty1, M. Elshenawy1, L. Oster1, L.S. Ferro1, A. Yildiz1,2; 1Biophysics, University of California Berkeley, Berkeley, CA, 2Molecular and Cell Biology, University of California Berkeley, Berkeley, CA

B146/P2809 Dynactin Regulation of Cytoplasmic Dynein Motility Analyzed by Live Cell Imaging. J.C. Cain1, N.N. Townsend1, Z. Burdikova1, P.R. Sheth1, K.R. Blasier1, K. Pfister1; 1Cell Biology, University of Virginia, Charlottesville, VA

B147/P2810 Dynactin is required for continuous Dynein driven motion of phagosomes. P.B. Sanghavi1, P. Rathaur2, A. Roy1, M. M.S1, R. Mallik1; 1Biological Sciences, Tata Institute of Fundamental Research, Mumbai, India, 2Biological Sciences, Indian Institute of Science Education and Research, Pune, India

B148/P2811 A C elegans dynactin p150 mutant with reduced affinity for dynein intermediate chain uncouples dynein recruitment from dynein activation. J. Duro1,2, J.B. Gama1,2, D.J. Barbosa1,2, C. Carvalho1,2, R. Celestino1,2, A.X. Carvalho1,2, R. Gassmann1,2; 1Institute for Research and Innovation in Health (i3S), Porto, Portugal, 2Institute for Molecular and Cell Biology, Porto, Portugal
B159/P2822 Role of Cdk1 Phosphorylation of Nde1 During Neocortical Development and Schizophrenia. D.J. Doobin1, A. Carabalona1, C. Bertpeglia1, A. Falnikar1, R.B. Valle1; 2Pathology and Cell Biology, Columbia University, New York, NY

B160/P2823 Differential Interfaceome of a DCTN4 (dynamitin p62) Variant. E.P. Mattson1, T.A. Schroer2; 3Biology, Johns Hopkins University, Baltimore, MD

B161/P2824 Understanding the role of the yeast MAP She1 in dynein-mediated spindle positioning. K. Ecklund1, M.E. Bailey1, K.A. Kossen1, C.J. Dietvorst1, C.L. Asbury1, S.M. Markus1; 3Biochemistry and Molecular Biology, Colorado State University, Fort Collins, CO

B162/P2825 The effect of the dynactin DCTN5 Nemo mutation on the mouse lens. T. Yeh1, A. Carvers1, F.N. Dong1, H. Zhao1, S. Hattar2, T.A. Schroer1; 5Biology, JOHNS HOPKINS UNIVERSITY, Baltimore, MD, 4National Institute of Mental Health, National Institutes of Health, Bethesda, MD

Microtubule Dynamics 2

B164/P2826 Tuning microtubule dynamics to enhance ovarian cancer therapy. Y. Zheng1,2, R. Sethi1, L.S. Mangala1,2, C. Taylor1,2, J. Goldsmith1,2, N. S. Gray3, S. Knapp3, J.L. Conley Calderon1; 4Department of Gynecologic Oncology, The University of Texas MD Anderson Cancer Center, Houston, TX, 2Division of Structural Studies, Medical Research Council Laboratory of Molecular Biology, Cambridge, United Kingdom

B165/P2827 Regulation of tip dynamics promotes the reorientation of the cortical microtubule array. M. Saltini1, B.M. Mulder2; 1Department of Developmental Biology, University of California San Diego, La Jolla, CA, 2Department of Biophysics, Rockefeller University, New York, NY

B166/P2828 Microtubule array reorientation driven by severing requires stabilization of plus and minus ends by CLASP and SPR2, respectively. J.J. Lindeboom1, M. Nakamura1, M. Saltini1, A. Hibel1, A. Wallia1, T. Ketelaar1, A.C. Emos1, J.C. Sedbrook1, V. Kirik1, B.M. Mulder1, D.W. Ehrhardt1; 2Plant Biology, Carnegie Institution for Science, Stanford, CA, 3Institute AMOLF, Amsterdam, Netherlands, 4Wageningen University, Wageningen, Netherlands

Tuesday Poster Session

Netherlands, 1Sainsbury Laboratory, Cambridge, United Kingdom, 2School of Bioscience, Illinois State University, Normal, IL

B167/P2829 Investigating the activity and function of DCLK1 on microtubule dynamics. M. Rogers1, A. Ramkumar1, A. Downing2, K. Ori-McKenny1; 1Molecular and Cellular Biology, University of California Davis, Davis, CA

B168/P2830 Expression of tubulin tyrosine ligase in isolated rat cardiomyocytes modulates microtubule dynamics and stability while influencing cell size. A.K. Salomon1, N.A. Kelly1, N.E. Okami1, A.I. Bogush1, B.L. Prosser1; 2Physiology, University of Pennsylvania, Philadelphia, PA

B169/P2831 Optogenetic +TIP complex control to reveal local microtubule functions during neuronal morphogenesis. J. van Haren1, R. Charafeddine1, T. Wittmann1; 1Cell Tissue Biology, University of California, San Francisco, San Francisco, CA

B170/P2832 APC2 controls dendrite development by promoting microtubule dynamics. O.I. Kahn1, P. Schätzle1, D. van de Willige1, R.P. Tas1, F.W. Lindhout1, S. Portegies1, L.C. Kapitein1, C.C. Hoogenraad1; 2Cell Biology, Utrecht University, Utrecht, Netherlands

B171/P2833 Patronin-mediated microtubule minus end growth populates dendrites with minus-end-out microtubules during development and regeneration. C. Feng1, P. Thyagarajan1, M. Shorey1, A.T. Weiner1, D. Seebold1, R. Albertson1, D. Goetschius1, M.M. Rolls1; 2Biochemistry and Molecular Biology and the Huck Institutes of the Life Sciences, The Pennsylvania State University, University Park, PA

B172/P2834 Molecular mechanisms regulating microtubule polarity orientation in the axon. A. Patil1, W. Yu1, P.W. Baas1; 2Neurobiology and Anatomy, Drexel University College of Medicine, Philadelphia, PA

B173/P2835 Running with Scissors: Regulation of the Microtubule Severing Enzyme, Fidgetin-Like 2. R. Birnbaum1, J. Biswas1, R.H. Singer1, D.J. Sharp1; 2Neuroscience/Physiology and Biophysics, Albert Einstein College of Medicine, Bronx, NY

B174/P2836 Jvl is required for microtubule stabilization during bristle development. R. Baskar1, A. Bakhrit1, T. Otoni1, G. Davido1, H. Pandey1, L. Gheber1, R. Zarivach1, H. Hayashi1, U. Abdu1; 2Department of Life Sciences, Ben-Gurion University of the Negev, BeerSheva, Israel, 3Laboratory for Morphogenetic Signaling, RIKEN Center for Developmental Biology, Kobe, Japan, 4Department of chemistry, Ben-Gurion University of the Negev, BeerSheva, Israel

B175/P2837 Perturbed posttranslational polyglutamylation of the neuronal microtubule cytoskeleton causes neurodegeneration in mice and humans. M.M. Magiera1, V. Shash1, S. Bodakunanda1, J. Ziai1, D. Klein1, S. Rudnik-Schöneborn1, M. Duda1, S. Lacomme1, P. Catarino Marques Sousa1,5, S. Lebouche1, T.J. Hausrat1, C. Bosc15, A. Andrieux15, M. Knesels1, M. Landry1, A. Calas1, R. Martin1, M. Balastik1, J. Senderek1, C. Janke1; 2Institut Curie, Orsay, France, 3Division of Medical Genetics, Department of Pediatrics,
Cilia Assembly and Intraflagellar Transport

B188/P2849 Non-canonical Hedgehog pathway can regulate cilogenesis. T. Akhshi1, T. W. Trumble1, 2; 1Cell Biology Program, Hospital for Sick Children, Toronto, ON, 2Department of Biochemistry, University of Toronto, Toronto, ON

B189/P2850 Membrane tubulation functions in cilia assembly and transport. Q. Lu, 1, C. Insinna1, 2; 1,2Laboratory of Systems Pharmacology, Harvard Medical School, Boston, MA, 2Laboratory of Systems Pharmacology, Harvard Medical School, Boston, MA

B190/P2851 TTBK2 phosphorylates CEP83 in promoting cilia initiation. C. Loi, 1, I. Lin, 1; T.T. Yang, 1; Y. Lin, 2; B. Tanos, 2; Y. Huang, 2; Y. Tsai, 2; J. Liao2, 2; W. Wang, 1; 1Biochemistry and Molecular Biology, National Yang-Ming University, Taipei, Taiwan, 2Atomic and Molecular Sciences, Academia Sinica, Taipei, Taiwan, 3Cancer Research, Division of Cancer Therapeutics, London, United Kingdom, 4Genome and Systems Biology Degree Program, National Taiwan University, Taipei, Taiwan

B191/P2852 LRRCAS at the distal appendages is required cilogenesis. B. Kurtulmus1, 2, 3; C. Yuan, 1, 2; J. Schuy, 1, 2; A. Neuner, 1; S. Hata, 1; G. Kalamakis, 1; A. Martin-Villalba, 2; G. Pereira1, 2; 1, 2, 3Molecular Biology of Centrosomes and Cilia, Centre for Organismal Studies, Heidelberg, Germany, 4Molecular Biology of Centrosomes and Cilia, DKFZ-ZMBH Alliance, Heidelberg, Germany, 5Zentrum für Molekulare Biologie der Universität Heidelberg (ZMBH), Heidelberg, Germany, 6Molecular Neurobiology, Deutsches Krebsforschungszentrum (DKFZ), Heidelberg, Germany

B192/P2853 The Centrosome Protein CEP103 Binds to Microtubules and Is Required for Efficient Cilogenesis. H.K. Zhirilgouli, 1, E. Cufal; 1Molecular Biology and Genetics, Koc University, Istanbul, Turkey

B193/P2854 Dynamic recruitment of the retinal degeneration gene product CDDC66 to the centrosome/cilium complex is regulated by satellites and microtubules. E. N. Firat-Karalar1, D. Conkar1; 1Molecular Biology and Genetics, Koc University, Istanbul, Turkey

B194/P2855 Partially redundant actin genes in Chlamydomonas control transition zone and flagellum-directed protein dynamics. B. Jack1, D. Muller1, A. Fee1, A.L. Tetlow1; P. Avasthi1, 2; 1Anatomy and Cell Biology, University of Kansas Medical Center, Kansas City, KS, 2School of Medicine, University of Missouri- Kansas City, Kansas City, MO, 3Ophthalmology, University of Kansas Medical Center, Kansas City, KS

B195/P2856 Identification of novel ciliogenesis genes in Drosophila and C. elegans. T.Y. Su1, J. Dobbelaere1, B. Erdi1, A. Dammermann1, 2; IMax F. Perutz Laboratories, University of Vienna, Vienna BioCenter (VBC), Vienna, Austria

B196/P2857 Diffusion as a Ruler: Modeling Kinesin Diffusion as a Length Sensor for Intraflagellar Transport. N.L. Hendel1, M. Thomson1, W.F. Marshall1; 1Biochemistry Biophysics, University of California, San Francisco, San Francisco, CA, 2Division of Biology and Biological Engineering, California Institute of Technology, Pasadena, CA

B197/P2858 Identification of Novel Ciliogenesis-dependent Ciliary Signaling Mechanisms in Drug Resistant Basal Cell Carcinoma (BCC). S. Sundarum1, E.J. Ezratty1; 1Department of Pathology and Cell Biology, Columbia University Medical Center, New York, NY

B198/P2859 Rapid and acute inhibition of heterotrimeric kinesin-2 function reveals mechanisms of intraflagellar transport in mammalian cilia. M.F. Engelke1, 2; B. Waas1; S.E. Kears1; A. Suber1; B.L. Allen1; K.J. Verhey1; 1Cell and Developmental Biology, University of Michigan Medical School, Ann Arbor, MI

B199/P2860 Cutting off ciliary protein import: Intraflagellar transport after dendritic femtosecond-laser ablation. J. Mijalkovic1, 2; J. Girard1; J. van Loo1, 2; F. Oswald1, 2; E.J. Pehntman1; 1Physics and Astronomy, Vrije Universiteit Amsterdam, Amsterdam, Netherlands

B200/P2861 IFT54 participates in tubulin transport in cilia. J.L. Wingfield1, K.F. Lechtreck1; 1Cellular Biology, University of Georgia, Athens, GA

B201/P2862 A Network of Genes regulating tubulin glycylation in Drosophila spermigensis. C.W. Bazinet1, U. Gosavi1, U. Nyachyon1, N. Chatterjee1, B.R. Pearce1, R.J. Harvey1; 1Biological Sciences, St. John’s University, Jamaica, NY, 2Pharmacology, University College London, London, United Kingdom, 3School of Health and Sport Sciences, University of the Sunshine Coast, Sippy Downs, Australia

Duke University Medical Center, Durham, NC, Dept. of Molecular Neurobiology, Institute of Physiology of the Czech Academy of Sciences, Prague, Czech Republic, Department of Neurology, Developmental Neurobiology, University Hospital Würzburg, Würzburg, Germany, Division of Human Genetics, Medical University Innsbruck, Innsbruck, Austria, Friedrich Bauer Institute at the Department of Neurology, Ludwig Maximilian University of Munich, Munich, Germany, Bordeaux Imaging Center, BIC, Université Bordeaux, Bordeaux, France, Children’s Hospital, Harvard Medical School, Boston, MA, Center for Molecular Neurobiology (ZMHN), University Medical Center Hamburg-Eppendorf, Hamburg, Germany, Grenoble Institut des Neurosciences, Gin, Université Grenoble Alpes, Grenoble, France

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B202/P2863 Spatiotemporally decoding the tubulin codes in primary cilia and centrosomes. S. Hong1, C. Song1, C. Lin1, Y. Kao1, Y. Chang1, W. Hsu1, Y. Chuang1, Y. LIN1-2, 1Institute of Molecular Medicine, National Tsinghua University, Hsinchu, Taiwan, 2Department of Medical Science, National Tsinghua University, Hsinchu, Taiwan

B210/P2870 Quantitative analysis of the signaling dynamics of the spindle assembly checkpoint. C. Chen1, A. Fontanà1, A.P. Joglekar1-2, 1Biophysics, University of Michigan, Ann Arbor, MI, 2Cell Developmental Biology, University of Michigan Medical School, Ann Arbor, MI

B211/P2871 Spindle Orientation: Pinning Down the Role of Pins. N. Lowe1, D.T. Bergstralh1; 1Biology, University of Rochester, Rochester, NY

B212/P2872 IFT machinery proteins contribute to efficient centrosome clustering in mitotic cells with centrosome amplification. B. Vitre1, N. Taulet1, S. Descamps1, A. Dodsane1, M. Cisneros1, J. Maurin1, A. Douanier1, C. Anguille1, B. Delaveli1; 1CRBM, CNRS, University of Montpellier, Montpellier, France

B213/P2873 Non-cell autonomous spindle morphology contributes to mitotic vulnerability of embryonic neural stem cells in mammals. V.E. Marthins1, D. Vargas-Hurtado1, J. Brault1, D. Kridjda1, T. Piolot2; 1Cell Biology, Memorial Sloan Kettering Cancer Center, New York, NY, 2Institut Curie, Paris, France, France

B214/P2874 A cancer-associated mis-sense mutation in the scaffold subunit of PP2A enhances clustering of supernumerary centrosomes during mitosis. N.V. Antao1, P. Cifani2, A. Kentis3, E.A. Foley1; 1Cell Biology, Memorial Sloan Kettering Cancer Center, New York, NY, 2Molecular Pharmacology, Memorial Sloan Kettering Cancer Center, New York, NY

B215/P2875 Centrosomes balance the microtubule dynamics and HURP to ensure symmetric mitotic spindles and symmetric cell divisions. D. Dudka1, N. Liaudet1, H. Vassal1; 1Cell Biology, 2Department of Cell Physiological and Metabolism, University of Geneva, Faculty of Medicine, Geneva, Switzerland, 3Biomaging Facility, University of Geneva, Faculty of Medicine, Geneva, Switzerland, 4National Institute of Applied Sciences, Lyon, France

B216/P2876 The ubiquitin ligase TRIM37 controls susceptibility to PIK4 inhibition by enforcing centrosome-dependent MTOR formation. F. Meitinger1, R.L. Davis2, R. Kabech1, J.V. Anzola1, Y. Wong1, A.K. Shiu1, A. Desai1, K. Oegema1; 1Department of Genetics, Cell Biology, and Developmental Biology, Center for Genomic Integrity Institute for Basic Science (IBS), Ulsan, South Korea

B217/P2877 TRIP13 and APC15 drive mitotic exit by turnover of interphase- and unattached kinetochore-produced MCC. D. Kim1, J. Han1, P. Ly2, Q. Ye1, M. McMahon1, K.D. Corbett2, D.W. Cleveland1; 1Cellular and Molecular Medicine, Ludwig Institute for Cancer Research at UCSD, La Jolla, CA, 2Small Molecule Discovery Program, Ludwig Institute for Cancer Research, La Jolla, CA

B218/P2878 Mild Replication Stress increases Microtubule Stability and induces premature Centrosome Disengagement in Mitosis, favoring Chromosome Segregation Errors. T. Wilhelm1, A. Olziyterskii1, D. Harry1, H. Vassal2, P. Meraldi1; 1Cell Physiology and Metabolism, University of Geneva, Geneva, Switzerland, 2National Institute of Applied Sciences, Lyon, France

B219/P2879 A contractile actomyosin network on the nuclear envelope remnant positions human chromosomes for mitosis. A.J. Booth1, Z. Yue1, J.K. Eykelenboom1, G. Luxton1, H. Hocheygter2, T.U. Tanaka3; 1Centre for Gene Regulation and Expression, University of Dundee, Dundee, United Kingdom, 2Department of Genetics, Cell Biology, and Development, University of Minnesota, Minneapolis, MN, 3Genome Damage and Stability Centre, University of Sussex, Brighton, United Kingdom

B220/P2880 The RangTP Gradient Acts as a Rheostat to Promote XCTK2 Microtubule Cross-Linking and Sliding. S. Zhang1, S. Mahnno2, L.N. Weaver3,4, C.E. Walczak5; 1Medical Sciences Program, Indiana University, Bloomington, IN, 2Biological Sciences, Indiana University, Bloomington, IN, 3International Summer Undergraduate Research Program, Indiana University, Bloomington, IN, 4Biological Sciences, Middle East Technical University, Ankara, Turkey, 5Biochemistry and Molecular Biology, Johns Hopkins University, Bloomberg School of Public Health, Baltimore, MD

B221/P2881 Inhibitor of HDAC8 reveals its potential role in maintaining mitotic spindle architecture. R.A. Koranne1, A. Al-Hamashi2, S. Diamini3, M. Rashid1, V. Tillekeratne2, W.R. Taylor1; 1Biological Sciences, University of Toledo, Toledo, OH, 2Medicinal and Biological Chemistry, University of Toledo, Toledo, OH

B222/P2882 Mitochondria function and dynamics as regulators of mitosis. P. Gonzalez1, S.Z. Azzami1, E.L. Herrera1, M.C. Berger1, L.A. Diaz-Martinez1,2; 1Paul L. Foster School of Medicine, Texas Tech Health Sciences Center, El Paso, TX, 2Biological Sciences, The University of Texas at El Paso, El Paso, TX

B223/P2883 Microneedle manipulation of the mammalian spindle suggests specialized microtubule crosslinking near chromosomes. P. Suresh1,2, A.F. Long1,2, S. Dumont1,2,4; 1Cell and Tissue Biology, University of California, San Francisco, San Francisco, CA, 2Biophysics Graduate Program, University of California, San Francisco, San Francisco, CA, 3Tetrad Graduate Program, University of California, San Francisco, San Francisco, CA, 4Cell and Molecular Pharmacology, University of California, San Francisco, San Francisco, CA

B224/P2884 Dna1B6 is a RanGTP-regulated protein involved in dynin-dependent microtubule organization during mitosis. M. Rosas Salvans1, I. Vernois1,2,3; 1Cell and Developmental Biology Programme, Centre for Genomic Regulation (CRG), Barcelona, Spain, 2Universitat Pompeu Fabra, Barcelona, Spain, 3Institució Catalana de Recerca i Estudis Avangants (ICREA), Barcelona, Spain

B225/P2885 The FBXO45/MYCBP2 E3 ubiquitin ligase reduces the sensitivity to anti-tubulin chemotherapeutics during prolonged mitosis by destabilizing the tumor suppressor FBXW7. I.M. Hoffmann1, K.T. Richter1; 1Cell Cycle Control and Carcinogenesis, German Cancer Research Center, Heidelberg, Germany

**Spindle Assembly 2**

B209/P2869 Modeling Centrosome Clustering. D. Mercadante1, B. Navarro-Serer1, E. Childers1, N.M. Hermance1, S.D. Olson2, A.L. Manning2; 1Bioinformatics and Computational Biology, Worcester Polytechnic Institute, Worcester, MA, 2Chemistry and Biochemistry, Worcester Polytechnic Institute, Worcester, MA

**Spindle Assembly 2**

B209/P2869 Modeling Centrosome Clustering.

D. Mercadante1, B. Navarro-Serer1, E. Childers1, N.M. Hermance1, S.D. Olson2, A.L. Manning2; 1Bioinformatics and Computational Biology, Worcester Polytechnic Institute, Worcester, MA, 2Chemistry and Biochemistry, Worcester Polytechnic Institute, Worcester, MA
Cytokinesis 2

B229/P2889 Polarization of the Cortical Actomyosin Network by Aurora Kinase B during Mammalian Cytokinesis. N. Ramkumar1, B. Baum2; 1MRC, Laboratory for Molecular Cell Biology, University College London, London, United Kingdom

B230/P2890 Rho-dependent control of Citron kinase is required for the contractile ring-to-midbody ring transition during cytokinesis. S. Carin1, D. Wernike1, N. El-amine1,2; 1Pathology, Cell Biology, University of Montreal, Montreal, QC, 2Centre de Cancérologie Charles Bruneau, Centre Hospitalier Universitaire Sainte-Justine Centre de Recherche, Montreal, QC

B231/P2891 Intramolecular regulation of anillin by RhoA during cytokinesis. D. Beaudet1, N. Pham2, A.J. Pieky1; 1Biology, Concordia University, Montreal, QC

B232/P2892 Ran regulation of cytokinesis is cell-fate dependent in C. elegans embryos. K. Mastronardi1, I. Ozgurgin1, A.J. Pieky1; 1Biology, Concordia University, Montreal, QC

B233/P2893 Cytoskeleton disassembly by Aurora kinase B prepares frog egg cytoplasm for cleavage furrow ingression. C. M. Field1, J.F. Pelleter1, T.J. Mitchison1; 1Systems Biology, Harvard Medical School, Boston, MA, 2Marine Biological Laboratory, Woods Hole, MA

B234/P2894 Aurora B is required for programmed variations of cytokinesis during morphogenesis in the C. elegans embryo. X. Bai1, P. Li1, C. Chen2, R. Simmons1, B. Nebenfuhr1, D. Mitchell2, L. Klebanow1, N. Mattson1, C.G. Sorensen Turpin1, B. Chen2, E. Betzig1, J.N. Bernbemken1, BCBM, UT Knoxville, Knoxville, TN, 1Research Center for Applied Science, Academia Sinica, Taipei, Taiwan, 2Janelia Research Campus, Ashburn, VA

B235/P2895 Septins coordinate the assembly of the ESCRT machinery of cytokinetic abscission. E.P. Karasmanis1, D. Hwang1, J.R. Bowen1, K. Nakos1, E. Spilotta1; 1Biology, Drexel University, Philadelphia, PA

B236/P2896 An investigation of the scaffold proteins and their role in abscission machinery during cytokinesis. D. Safran1, W.S. Trimble2,1; 1Department of Cell Biology, The Hospital for Sick Children Research Institute, Toronto, ON, 2Department of Biochemistry, University of Toronto, Toronto, ON

B237/P2897 The MBsome is a Signaling Organelle that Mediates Post-Abscission Midbody Induced Cell Proliferation. E.M. Peterman1, P. Giubizzi2, J. Schafer1, V.A. Skeberdis1, A. Kaupinis1, M. Valius1, R. Prekeris1; 1Cell and Developmental Biology, University of Colorado Anschutz Medical Campus, Denver, CO, 2Institute of Cardiology, Lithuanian University of Health and Science, Kaunas, Lithuania, 3Institute of Biochemistry, Proteomics Center, Vilnius University Life Sciences Center, Vilnius, Lithuania

B238/P2898 Midbodies as putative intracellular and extracellular RNA granules. S. Park1, R.D. Dahn1, J.M. Gilbert1, K.J. VanDenHeuvel1, A. Jambhekar1, J.M. Shivas2, L. Qin1, O. Olukoga1, M.D. Blower1, A.R. Skop1; 1Laboratory of Genetics and Medical Genetics, University of Wisconsin-Madison, Madison, WI, 2Department of Molecular Biology and Genetics, Massachusetts General Hospital, Harvard University, Boston, MA, 3Leica Microsystems, Allendale, NJ

B239/P2899 Actin oxiredoxidase as a novel component of the NoCut/abscission checkpoint. J. Bai1, A.F. Echard1; 1Cell Biology and Infection, Pasteur Institute, Paris, France

B240/P2900 A putative mechanosensitive channel Pkd2p is essential for the daughter cell separation in fission yeast cytokinesis. Z.I. Morris1, B.K. Morris1, Q. Chen1; 1Biological Sciences, University of Toledo, Toledo, OH

B241/P2901 Cell-intrinsic and -extrinsic mechanisms promote cell-type-specific cytokinetic diversity. T. Davies1, H.X. Kim1, N. Romano Spica1, B.J. Lesse-Pringle1, J. Dumont1, M. Shirazi-Hizu1, J.C. Camnan1; 1Pathology and Cell Biology, Columbia University Medical Center, New York, NY, 2Institut Jacques Monod, Paris, France, 3Genetics and Development, Columbia University Medical Center, New York, NY

B242/P2902 Cleavage-Furrow Formation without F-Actin or Myosin – Rethinking Cytokinesis through Chlamydomonas Cell Division. M. Onishi1, K. Pecani2, T. Jones IV1, J.G. Umen3, J.R. Pringle1; 1Genetics, Stanford University School of Medicine, Stanford, CA, 2Rockefeller University, New York, NY, 3Danforth Plant Science Center, St. Louis, MO

B243/P2903 LET-99 Interacts with G Proteins to Promote Spindle Positioning and Furrowing in the C elegans Embryo. J.V. Alvarado1, K.L. Price1, K.C. Plance1, J.N. Bembenek1, L.S. Rose1; 1Molecular and Cellular Biology, University of California, Davis, Davis, CA

B244/P2904 The fission yeast y-tubulin complex protein Mto2 plays a role in regulating cytokinetic ring constriction. S.E. Dundon1, T.D. Pollard2,3; 1Molecular, Cellular, and Developmental Biology, Yale University, New Haven, CT, 2Molecular Biophysics and Biochemistry, Yale University, New Haven, CT, 3Cell Biology, Yale University, New Haven, CT

B245/P2905 The F-BAR domain of Cdc15 simultaneously scaffolds protein partners and binds membrane to promote proper organization of the cytokinetic ring. C.E. Smider1, N.A. McDonald1, A.H. Willet2, S.E. Collier1, M.D. Ohi1, K.L. Gould1; 1Cell and Developmental Biology, Vanderbilt University, Nashville,TN

Kinetochores 2

B246/P2906 Genetic interactions between specific chromosome copy number alterations dictate complex aneuploidy patterns. M. Combiatore Ravichandran1, S. Fink2, M. Clarke3, F. Hofer4, C.S. Campbell5; 1Department of Chromosome biology, Max F. Perutz Laboratories, University of Vienna, Vienna, Austria

B247/P2907 Regulation of mitotic centromere transcription by the cohesin ring complex. M.D. Blower1, C. Perea-Resa1; 1Molecular Biology, Massachusetts General Hospital/ Harvard Medical School, Boston, MA

B248/P2908 Quiescent cells actively replenish CENP-A nucleosomes to maintain centromere identity. S.Z. Swartz1, L.S. McKay2, K. Su3, A. Padeganen4, P.S. Maddox2, I.M. Cheeseman1; 1Whitehead Institute for Biomedical Research, Cambridge, MA, 2Department Biology, UNC Chapel Hill, Chapel Hill, NC

B249/P2909 Tip60 acetylates histone H3 on K4 to restrict Chromosome Passenger Complex signaling to Mitosis. L. Liu1, E. Niedzielskiwska1, C. Kesu2, Z. Mayo1, B. Strafiti3, M. Aditi4, T. Stukenberg1; 1Biochemistry and Molecular Genetics, University of Virginia, School of Medicine, Charlottesville, VA, 2Biochemistry and Molecular Genetics, University of North Carolina, Chapel Hill, Chapel Hill, NC

B250/P2910 p53 is not required for celldeath andtumor suppression caused by high rates of chromosomal instability. L.C. Funk1,2,3, J. Wan1, C. Kaur1, B.A. Weaver4, S.D. Ryan1; 1Cell and Regenerative Biology, UW-Madison, Madison, WI, 2Cancer Biology Training Grant, UW-Madison, Madison, WI, 3Molecular and Cellular Pharmacology Training Program, UW-Madison, Madison, WI, 4Carbone Cancer Center, UW-Madison, Madison, WI

B251/P2911 Function of microtubule binding by the chromosomal passenger complex in chromosome biorientation. T. Marsoner1, C. Masnovo1, C.S. Campbell1; 1Chromosome biology, Max F. Perutz Laboratories, Vienna, Austria

B252/P2912 Identification of suppressors of Chromosomal Passenger Complex mutants in budding yeast. M. Clarke1, M. Ravichandran2, S. Fink3, C.S. Campbell1; 1Chromosome Biology, MFPL, Vienna, Austria
B269/P2929 A reaction-diffusion mechanism for crossover regulation during meiosis. L. Zhang1, W.T. Stauffer2, S. Köhler1, R. Rillo-Bohn1, A.F. Dernburg1,2,5; 1Molecular and Cell Biology, University of California, Berkeley, Berkeley, CA, 2Howard Hughes Medical Institute, Chevy Chase, MD, 3Integrative Biology, University of California, Berkeley, Berkeley, CA, 4California Institute for Quantitative Biology (QB3), Berkeley, CA, 5Biological Systems and Engineering, Lawrence Berkeley National Laboratory, Berkeley, CA

B270/P2930 Organization of the Mouse Spermatoocyte Genome in Meiotic Prophase. L. Patel1, R.S. Kang2, S. Chee1, S.C. Rosenberg2, Y. Gu1, R. Ravirama3, B. Ren1, F. Cole3, K.D. Corbett4; 1Department of Cellular and Molecular Biology, University of California San Diego, La Jolla, CA, 2Department of Epigenetics and Molecular Carcinogenesis, MD Anderson Cancer Center, Smithville, TX, 3Ludwig Institute for Cancer Research, La Jolla, CA

B271/P2931 Excess crossover formation negatively impacts meiotic chromosome segregation in C. elegans. J. Hollis1, M. Glover2, A. Schlientz3, B. Bowerman1, S.M. Wignall2, D.E. Libuda1; 1Department of Molecular Biosciences, Northwestern University, Evanston, IL, 2Department of Biology, University of Oregon, Eugene, OR

B272/P2932 Alignment of Sex Trivalents in Metaphase I and Anaphase I. M.A. Lagerman1, M.A. Czekalski1, C.G. Evans1, L.V. Paliulis2; 1Program in Biochemistry, Bucknell University, Lewisburg, PA, 2Biology Department, Bucknell University, Lewisburg, PA

B273/P2933 Structural insights into Hop1, a master regulator of yeast meiosis. S.N. Ur1, S. Richey2, L.A. Vale-Silva1, T. Su1, A. Hochwagen3, K.D. Corbett1; 1Biomedical Sciences Graduate Program, University of California, San Diego, La Jolla, CA, 2Department of Cell and Molecular Biology, University of California, San Diego, La Jolla, CA, 3Department of Biology, New York University, New York, NY

B274/P2934 Meiosis-specific modulation of kinetochore composition by Aurora B kinase. J. Chen1, L.A. Kohlstaedt2, H. Liao3, A. Liao2, E. Ünal1; 1Molecular and Cell Biology, University of California, Berkeley, Berkeley, CA, 2Vincent J. Coates Proteomics/Mass Spectrometry Laboratory, University of California, Berkeley, Berkeley, CA

B275/P2935 AIR-2/Aurora B kinase activity is required for critical events during C. elegans oocyte meiosis. N.S. Divecchia1, A.C. Davis-Roca1, L. Zhang1, A.F. Dernburg1, S.M. Wignall1,2; 1Molecular Biosciences, Northwestern University, Evanston, IL, 2Molecular and Cell Biology, University of California, Berkeley, Berkeley, CA

B276/P2936 Establishment and release of sister centromere co-orientation by cohesins and phosphatases in Drosophila oocytes. L. Wang1, A. Das2, K. McKinn1; 1Waksman Institute, Rutgers University, Piscataway, NJ, 2University of Pennsylvania, Philadelphia, PA
Cancer Therapy 3

B287/P2946 Real Time Monitoring of Human Primary Cell Panel for Evaluating On/Off Target Toxicity of Bi-Specific T Cell Engagers. C. Jin1, Y. Abassi2; 1ACEA Biosciences Inc, San Diego, CA

B288/P2947 Cancer specific ROS generation by hyperthermia enhances the photodynamic therapy by regulation of HCP1 and ABCG2 expressions. H. Kurokawa1, H. Ito2, H. Matsui3; 1Faculty of Medicine, University of Tsukuba, Ibaraki, Japan, 2Graduate School of Medical and Dental Sciences, Kagoshima University, Kagoshima, United States

B289/P2948 Downregulation of LAT1 (SLC7A5) and ASC1T (SLC1A5) in human cancer. A. Oliveira1, C. Carneiro1, P. Serrão1, P. Kennedy1, S. Soares-da-Silva2,3; 1Phyzat Biopharmaceuticals, Porto, Portugal, 2MedinUP – Center for Drug Discovery and Innovative Medicines, Porto, Portugal

B290/P2949 Small molecule MBT252: a highly potent modulator of p53Y220C mutant. R. Mingoleva1, R. Sayarova1, R. Khaidullina1, O. Kartseva1, I. Glagoleva1, N. Alexandrova1, A. Hamad2, R. Subani2, V. Chezov2, R. Khairullin1, M. Baud2, A. Rivano2, R. Mistakova1, E. Bulatov1; 1Institute of Fundamental Medicine and Biology, Kazan Federal University, Kazan, Russia, 2Chemistry, University of Southampton, Southampton, United Kingdom

B291/P2950 Carragenan improves radiation therapy via integrin related molecular mechanism in cancer cell lines and in vivo. P. Wu1, C. Hsieh1, F.C. Recuenca2, Y. Onodera3, N. Sasaki1, A.J. Giaccia1, Q. Le1, S. Shimizu2, H. Shirato2, J. Nam2; 1Department of Radiation Oncology, Graduate School of Medicine, Hokkaido University, Sapporo, Japan, 2Global Station for Quantum Medical Science and Engineering, Gi-CoRE, Hokkaido University, Sapporo, Japan, 3Department of Molecular Biology, Faculty of Medicine, Hokkaido University, Sapporo, Japan, 4Department of Radiation Medicine, Faculty of Medicine, Hokkaido University, Sapporo, Japan

B292/P2951 Involvement of Rab27 in radiosensitivity of glioblastoma cells. S. Nishioka1, P. Wu1, Y. Onodera2,3, A.J. Giaccia1, Q. Le1, S. Shimizu2, H. Shirato2, J. Nam2; 1Department of Molecular Biology, Graduate School of Medicine, Hokkaido University, Sapporo, Japan, 2Global Station for Quantum Medical Science and Engineering, Gi-CoRE, Hokkaido University, Sapporo, Japan, 3Department of Radiation Oncology, Stanford University School of Medicine, Stanford, CA, 4Department of Radiation Oncology, Faculty of Medicine, Hokkaido University, Sapporo, Japan

Tuesday Poster Session

B293/P2952 Inhibitory effect of Angelica gigas on Hippo-YAP pathway. N. Kim1; 1Oncology, Ajou University, Suwon, South Korea

B294/P2953 Perilla Frutescens inhibits Hippo-YAP pathway. C. Kim1; 1BK21 plus program, Ajou University, Suwon, South Korea

B295/P2954 Inhibitory effect of perilla frutescens on migration of human breast cancer cell lines. S. Choi1; 1BK21 plus program, Ajou University, Suwon, South Korea

B296/P2955 Cytotoxic effects of phytocompounds from Myristica fragrans on adherent and non-adherent cancer cells. A.A. Witanis1, S.A. Vetrone2; 1Department of Biology, Whittier College, Whittier, CA

B297/P2956 Cytotoxic properties of potential cancer therapeutics derived from Ganoderma lucidum. C.L. Santiago Negron1, F. Rivas2, T. Ling3, J.I. Suarez-Arroyo4, G. Ortiz-Soto5, W.H. Lang6, M.Y. Lacourt7, A. Valentín-Acevedo8, M.M. Martínez-Montemayor9; 1Department of Biology, University of Puerto Rico - Bayamon, Bayamon, PR, 2Department of Chemical Biology and Therapeutics, St. Jude Children’s Research Hospital, Memphis, TN, 3Department of Biochemistry, Universidad Central del Caribe - School of Medicine, Bayamon, PR, 4Department of Microbiology and Immunology, Universidad Central del Caribe - School of Medicine, Bayamon, PR

B298/P2957 EGCG induces apoptosis and differentiation of leukemic cells in acute myeloid leukemia mice by modulation of Bcl-2 family proteins and Pin-1. F.I. Della Via1, C.O. Torello2, R.N. Shiraishi3, I. Santos2, K.P. Ferro1, M.C. Alvarez1, E.M. Roversi2, E.M. Rego3, S.T. Saad4; 1Hematology and Transfusion Medicine Center, University of Campinas, Campinas, Brazil, 2Department of Internal Medicine, University of São Paulo, Ribeirão Preto, Brazil

B299/P2958 Investigating the effect of Cannabidiol on Cancer Cells. M.K. Olmos1, S.A. Vetrone2; 1Biology, Whittier College, Whittier, CA

B300/P2959 Investigating the Anti-Proliferative Effects of a Derivative of Bitter Melon, Tubeimoside I, on Cancer Cells. Effects of a Derivative of Bitter Melon, Tubeimoside I, on Cancer Cells. A. Rojas1,2, Y. Weng3,4,5,6; 1Biology, Whittier College, Whittier, CA

B301/P2960 The Effect of Essiac Tea’s Antioxidant Properties on in vitro and in vivo Models. J. Ruiz1, S.A. Vetrone2; 1Biology, Whittier College, Whittier, CA

B302/P2961 Aqueous extracts of Paeonia suffruticosa modulates mitochondrial proteostasis by reactive oxygen species-induced endoplasmic reticulum stress in pancreatic cancer cells. Y. Liu1,2, Y. Weng1, H. Tsai1,2, C. Chen1, D. Lee1, C. Hsieh1,3,4, Y. Wu1,2,3,10, J. Lin1,12; 1Graduate Institute of Integrated Medicine, China Medical University, Taichung, Taiwan, 2Department of Medical Genetics and Medical Research, China Medical University Hospital, Taichung, Taiwan, 3Graduate Institute of Biomedical Science, Chung Hwa University of Medical Technology, Tainan, Taiwan, 4Department of Chinese Medicine, China Medical University Hospital, Taichung, Taiwan, 5Graduate Institute of Acupuncture Science, China Medical University, Taichung, Taiwan, 6Research Center for Chinese
B303/P2962 Phytochemicals from the Genus of Artemisia: Natural Constituents and Biological Cellular Activities. S. Soriano1, V. Godieva1,2, L. Acuña3, M. Veisaga4, D.W. Lee5, S.F. Oberbouer6, D.H. Lorenzo7, M.A. Barbieri1,2,8,9; 1Biological Sciences, Florida International University, Miami, FL, 2Chemistry and Biochemistry, Florida International University, Miami, FL, 3Biomolecular Sciences Institute, Florida International University, Miami, FL, 4Botanical Garden, Fairchild Tropical Botanic Garden, Coral Gables, FL

B303/P2963 The effect of phytochemical found in Artemisia tridentata on cell proliferation and melanin content. V. Godieva1,2, L. Acuña3, S. Soriano1, D.W. Lee4, M. Veisaga5, M.A. Barbieri1,2,8,9; 1Department of Chemistry and Biochemistry, Florida International University, Miami, FL, 2Department of Biological Sciences, Florida International University, Miami, FL, 3Biomolecular Sciences Institute, Florida International University, Miami, FL, 4Botanical Garden, Fairchild Tropical Botanic Garden, Coral Gables, FL

B303/P2964 Artemisia tridentata leaf extract’s chemical composition and antiproliferative activity on human cancer cells. L. Acuña1,2, V. Godieva1,2, S. Soriano1, M. Reyes2, M. Veisaga1, M.A. Barbieri1,2,8,9; 1Chemistry and Biochemistry, Florida International University, Miami, FL, 2Biomolecular Sciences Institute, Florida International University, Miami, FL, 3Biomolecular Sciences Institute, Florida International University, Miami, FL, 4International Center for Tropical Botany, Florida International University, Miami, FL, 5Botanic Garden, Fairchild Tropical Botanic Garden, Coral Gables, FL

B306/P2965 Enhancing antitumor activity of gallic acid by targeting necroptotic cell death signaling pathway. H. Tang1, C. Cheung2; 1Biological, Chinese University of Hong Kong, Hong Kong, Hong Kong

B307/P2966 Stressed out: DNA damage delivered at ultrahigh dose rates reduces cellular stress and apoptosis. D.H. Al Rawi1,2, M. Rafat1, S. Vemireddy1, P. Maxim1, B.W. Loo1; 1Department of Radiation Oncology, Stanford University, Stanford, CA, 2Department of Internal Medicine, Stanford Medical School, Stanford, CA, 3Department of Chemical Engineering, Vanderbilt University, Nashville, TN

B308/P2967 Understanding the role of Snail in maintaining the undifferentiated state of epithelial cancer cells. K. Badarinath1,2, D. Aryan1, S. Katariya1,2, S. Krishna1, C. Jamora1; 1National Center for Biological Sciences, Bangalore, India, 2Center for Inflammation and Tissue Homeostasis, IFOM - inStem Joint Research Laboratory, inStem, Bangalore, India

B309/P2968 Metabolic reprogramming of breast cancer cells undergoing epithelial-mesenchymal transition. A. Muir1, M.R. Sullivan2, M.G. Vander Heiden3; 1Department of Biology, Massachusetts Institute of Technology, Cambridge, MA

B310/P2969 TGF-B family protein LEFTY, a physiological Dual-SMAD inhibitor, promotes long-term proliferation of normal and malignant mammary cells. J. Antony1, M. Zabala1, N. Lobo2, L. Heitink3, J. Lam4, N. Parasharuma1, M. Adorno1, S.S. Skander1, D. Quan1, T. Kalisky1, S. Sim1, F.M. Dirbas1, G. Somolo1, S. Quake1, M.F. Clarke1,2; 1Institute of Stem Cell Biology, Stanford University, Stanford, CA, 2Chemical and Biological Engineering, University at Buffalo, Buffalo, NY, 3Department of Bioengineering, Stanford University, Stanford, CA, 4Department of Surgery, Stanford University School of Medicine, Stanford, CA, 5City of Hope Comprehensive Cancer Center, Duarte, CA, 6Chan Zuckerberg Biohub, San Francisco, CA

B311/P2970 Hybrid nanoparticles accumulate in and inhibit the growth of liver cancer stem cells. Y. Komizu1, K. Inamura1, S. Ishida1, Y. Matsumoto1, T. Matsushita1; 1Division of Applied Life Science, Graduate School of Engineering, Sojo University, Kumamoto, Japan, 2Division of Pharmacology, National Institute of Health Sciences, Kawasaki, Japan

B312/P2971 Understanding the TP53 signaling cascade that regulates cell fate post-acute aneuploidy induction. A. Narkar1,2, J. Zhu1, P. Bharne1, A. Nelliat1, D. Biswas1, R. Li1,2; 1Cell Biology, Johns Hopkins University - School of Medicine, Baltimore, MD, 2Human Genetics, Johns Hopkins University - School of Medicine, Baltimore, MD, 3Molecular and Cellular Biology, Johns Hopkins University, Baltimore, MD, 4Chemical and Biomolecular Engineering, Johns Hopkins University, Baltimore, MD, 5Electrical and Computer Engineering, Johns Hopkins University, Baltimore, MD

B313/P2972 CD82 Expression Promotes Acute Myeloid Leukemia Chemoresistance. M. Floren1, C.M. Termini1, K.D. Marjoni2, J.M. Gillette1; 1Pathology, University of New Mexico, Albuquerque, NM

B314/P2973 Single-cell RNA sequencing identifies a copy number variation independent gene signature in chromosomally unstable glioblastoma cancer stem cells that predicts patient survival. Y. Zhao1, R. Carter2, S. Nataraajan1, F.S. Yarn1, D.A. Compton1, C. Gawad2, C. Cheng3, K.M. Godek1,2,3; 1Molecular and Systems Biology, Geisel School of Medicine at Dartmouth, Hanover, NH, 2Oncology and Pathology, Dartmouth-Hitchcock Medical Center, Hanover, NH, 3Biomedical Data Science, Geisel School of Medicine at Dartmouth, Hanover, NH

B315/P2974 The SCRIB paralog Lano/LRRC1 regulates breast cancer stem cell fate through WNT/b-catenin signaling. M. Sebbagh1, L. Lopez-Almeida1, F. Bertucci2, P. Finetti3, J. Wicinski4, S. Marchetto3, R. Castellano1, E. Josse1, E. Charafe-Jauffret1, C. Ginestier1, J. Borg1, M. Santoni1; 1Institut Paoli-Calmettes, CRM INSERM_CNS, Aix Marseille Université, Marseille, France

B316/P2975 Determination of the CD34+ CD38- phenotype in patients with acute leukemia in Abidjan Côte d’Ivoire. D. Sawadogo1,2, M. Sangare Bamba1,2, H. Kassi Kablan1,2, E. Adjambiri1, R. N’Guessan Blao1,2, G. Koffi1; 1Hematology Biology, University Hospital of Yopougon, Abidjan, Cote d’Ivoire, 2Hematology, Pharmacy, University Felix Houphouet Boigny, Abidjan, Cote d’Ivoire, 3Clinic Hematology, University Hospital of Yopougon, Abidjan, Cote d’Ivoire

B317/P2976 Neural Differentiation of Glioblastoma Cells by Glial Fibrillary Acidic Protein Promoter Driven HSVtk/Ganciclovir Suicide System. W.C. Luo1, C. Chien2; 1Anatomy and Cell Biology, National Taiwan University, College of Medicine, Taipei, Taiwan

B318/P2977 Studies on high dose Vitamin C treatment for chemo-resistant prostate cancer stem cells mediated tumor angiogenesis. A. Mokkapati1, S. Rentala2; 1IGITAM Deemed to be University, Department of Biotechnology, 2GITAM Institute of Technology, Visakhapatnam, India

B319/P2978 Cancer stem cell induction from embryonic stem cells using cancer cell conditioned media. A. Seno1,2, C. Murakami2, T. Ohara3, Y. Iwasaki1, S. Yan1; 1Graduate School of Interdisciplinary Science and Technology, Okayama University, Okayama, Japan, 2Human Genetics, Okayama University, Okayama, Japan, 3OUI-SCEED, Okayama University, Okayama, Japan, 4Biotechnology and Experimental Medicine, Okayama University, Okayama, Japan, 5Health Service Center, Okayama University, Okayama, Japan

B320/P2979 Caprin-2 Containing Cytoplasmic Granules Activate β-catenin Nuclear Translocation and Confer Cytokine-independence in Erythroleukemia. M. Morris1, S. Chakapalli1, V. Cheryiath1; 1Biological & Environmental Sciences, Texas AM University - Commerce, Commerce, TX

B321/P2980 m6A reader YTHDF1 is required for efficient intestinal regeneration and tumorigenesis. H. Bing1,2, K. Liu1, J. Xiong1, T. Li1, L. Zhang2, X. Gao3; 1School of Medicine, Zhejiang University, Hangzhou, China
Tumor Microenvironment 2

B326/P2985 Development of in vitro 3D multicellular cancer model for anticancer drug screening. S. Kim2,3, S. Oh1, I. Bae1,2,3, Center for Biomaterials, Korea Institute of Science and Technology, Seoul, South Korea, 2Bio-Medical Engineering, University of Science and Technology, Daejeon, South Korea, 3Chemistry, University Utrecht, Netherlands, 1Pharmacology, Case Western Reserve University, Cleveland, OH

B327/P2986 3D characterization of nucleus geometry, cell division orientation and dynamics within multicellular spheroids. Impact of physical confinement. A. Desmaison1, L. Guillaume2, A. Sohrabi1, W. Xiao1,1, A. Hirayama3, H.P. Indo1, H.J. Majima1, H. Matsui2, Graduate School of Medical and Dental Sciences, Kagoshima University, Kagoshima, Japan, 2Faculty of Medicine, University of Tsukuba, Tsukuba, Japan, 3Center for Integrative Medicine, Tsukuba University of Technology, Tsukuba, Japan

B334/P2993 A hive mind: contact mediated communication between tumor cell clones dictates cell growth, migration and resistance to treatment. J. Davis1, S.S. Krishna1, V. Espina1, L.A. Liotta1, C. Mueller1, Center for Applied Proteomics and Molecular Medicine, George Mason University, Manassas, VA

B335/P2994 Colorectal cancers are addicted to autophagy for growth and progression. S.N. Devenport1,2, A. Attili1, J.G. Taranto1, R. Biswas1, Y.M. Shah1, Molecular and Integrative Physiology, University of Michigan, Ann Arbor, MI, 2Cellular and Molecular Biology, University of Michigan, Ann Arbor, MI, 3Cellular and Developmental Biology, University of Michigan, Ann Arbor, MI

B336/P2995 Effects of the microenvironment on the short-term evolution of newly formed tetraploid cells. N.C. Baudoin1, D. Ouzou2, S. Verbridge1, D. Cimini1, Department of Biological Sciences and Biocomplexity Institute, Virginia Tech, Blacksburg, VA, 2Department of Biomedical Engineering and Mechanics, Virginia Tech, Blacksburg, VA

B337/P2996 Effects of microenvironment stiffness on DNA repair in breast epithelial cells. A.M. Sm leser1, H. Rashidi1, P. Vidi1, 1Cancer Biology, Wake Forest Baptist Medical Center, Winston-Salem, NC

B329/P2998 Excessive calcium accumulation in cancer-associated fibroblast under glucose-starvation facilitates cell proliferation through stimulation of ATP generation. S. Hwang1,2, M. Kim1,2, Y. Yang1,2, Y. Jeong1,2, S. Ji1,2, Y. Kim1,2, 1Clinical Pathology Laboratory of Veterinary Clinical Pathology, College of Veterinary Medicine, Seoul National University, Seoul, South Korea, 2BK21 PLUS Program for Creative Veterinary Science Research, College of Veterinary Medicine, Seoul National University, Seoul, South Korea, 3Research Institute for Veterinary Science, College of Veterinary Medicine, Seoul National University, Seoul, South Korea

B330/P2989 Systems-based approaches uncover molecular regulators of tumor-associated macrophages in triple-negative breast cancer. N.N. Aoki1, T. Gujrai1, Human Biology, Fred Hutchinson Cancer Research Center, Seattle, WA

B331/P2990 Detecting Lipid Changes in Prostate Cancers. C.A. Bader1, 1University of SA, Adelaide, Australia

B332/P2991 Interplay of Hif-1a, Cytokines and Tumor cells in the regulation of the inflammatory Tumor Microenvironment. Y. Yeh1, T. Li1, 1College of Medicine, Department and Graduate Institute of Microbiology, Taipei, Taiwan

Tuesday Poster Session

Tumor Invasion and Metastasis 3

B338/P2997 Mediators of nuclear and cytoskeletal interactions modulate nuclear envelope integrity during confinement in metastatic melanoma. M.A. Baird1,2, A.X. Cartagena-Rivera1, M. Pirooznia3, R.S. Fischer4, C.M. Waterman1, 1National Heart, Lung, and Blood Institute, National Institutes of Health, Bethesda, MD, 2Biophysics, University of Maryland, College Park, MD, 3Integrated Network on Deafness and Other Communication Disorders, National Institutes of Health, Bethesda, MD, 4Bioinformatics and Computational Biology, National Institutes of Health, Bethesda, MD

B340/P2999 Confined Migration Induces Heterochromatin Formation in Cancer Cells. C. Hisa1,2, C. Chang1, L. Lammering1,2, 1Department of Molecular Biology and Genetics, Cornell University, Ithaca, NY, 2Weill Institute for Cell and Molecular Biology, Cornell University, Ithaca, NY, 3Nancy E. and Peter C. Meinig School of Biomedical Engineering, Cornell University, Ithaca, NY

B341/P3000 Thy-1/C90D-induced metastatic cancer cell migration involves a Ca2++-PK7 receptor signaling pathway. M. Brenet1,2, S. Martinez1,2, A.F. Quest1,2, L. Leyton1,2, 1Center for Studies of Exercise, Metabolism and Cancer (CEMC), Faculty of Medicine-University de Chile, Santiago, Chile, 2Advanced Center for Chronic Diseases (ACCID), Faculty of Medicine-University de Chile, Santiago, Chile

B342/P3001 RSK2 drives cell motility by serine phosphorylation of LARG and activation of Rho GTPases. W. Yang1, G. Shi1, D. Geerets1, M. Matter1, J. Ramos1, Cancer Biology, University of Hawaii Cancer Center, Honolulu, HI

B343/P3002 Cell cycle is a common driven force of Epithelial-to-mesenchymal transition. T. Lan1, W. Chen1, S. Tang1, Y. Tseng1, 1Chemical Engineering, University of Florida, Gainesville, FL, 2College of Pharmacy, The Ohio state University, Columbus, OH

B344/P3003 Cancer cells in the tumor core exhibit spatially coordinated migration patterns. R. Staneva1, F. El Marjou1, J. Barbazan1, S. Richon1, K. Kndija1, A.G. Clark1, M. Dantic Vignjevic1, 1Institut Curie, Paris, France

B345/P3004 Characterizing the role of actomyosin contractility in podocalyxin-driven collective tumor invasion. E.M. Bell1, M.L. Graves2, P.M. Dean3, K. Goodwin4, S.V. Plotnikov5, K.M. McNagny6, C.D. Roskelley7, 1Cellular and Physiological Sciences, University of British Columbia, Vancouver, BC, 2Microbiology and Immunology, University of British Columbia, Vancouver, BC, 3Lewis-Sigler Institute for Integrative Genomics, Princeton University, Princeton, NJ, 4Cell and Systems Biology, University of Toronto, Toronto, ON, 5The Biomedical Research Centre, University of British Columbia, Vancouver, BC

B346/P3005 Antioxidant enzymes mediate the survival of ECM-detached metastatic ovarian cancer cells. C.L. Libbing1, D. Bondarenko1, C.A. Davison-Versaggi1, 1Biological, Saint Mary's College, Notre Dame, IN
Chromatin and
Chromosome Organization

B357/P3015 Live cell monitoring for factors affecting genome variation. Y Xia1,2, K. Zhu1,2, C.R. Pfeifer2,3, I. Irianto1,2, D.E. Discher2,3
1Physical Sciences Oncology Center at Penn, University of Pennsylvania, Philadelphia, PA, 2Molecular & Cell Biophysics Lab, University of Pennsylvania, Philadelphia, PA, 3Department of Physics Astronomy, University of Pennsylvania, Philadelphia, PA

B358/P3016 Phase transition drives telomere clustering. H. Zhang1, M. Liu1, C. Aonbakhthen2, R. Dilley3,4, R.A. Greenberg3,4, D.M. Chennoweth2, M.A. Lampson1,2, Biology, University of Pennsylvania, Philadelphia, PA, 2Chemistry, University of Pennsylvania, Philadelphia, PA, 3Cancer Biology, University of Pennsylvania, Philadelphia, PA, 4Pathology, University of Pennsylvania, Philadelphia, PA

B359/P3017 H3.3-specific chromepheron Daxx and centromere epigenetics. V.M. Morozov1, S. Giovinanzi1, A.M. Ishov1,2, Anatomy and Cell Biology, University of Florida, Gainesville, FL

B360/P3018 3D genomic architecture reveals that neocentromeres associate with heterochromatin regions. K. Nishimura1,2, T. Hori1, M. Komiya1, T. Itoh1, T. Fukagawa2,2,3, 1Graduate school of Frontier Biosciences, Osaka University, Osaka, Japan, 2School of Life Science and Technology, Tokyo Institute of Technology, Yokohama, Japan

B361/P3019 KDM2A short isoform interacts with transcriptionally silent pericentric regions in an HP1a dependent manner. I. Raska1, D. Ladinovic2, O. Raska1,2, T.Vacik1, 1Institute of Biology and Medical Genetics, Charles University, First Faculty of Medicine, Prague, Czech Republic

B362/P3020 Regulation of HP1a binding in human cells. R. Sales Gil1, H. Amin2, V. Vinciotti1, P. Vagnarelli1,2,3, H. Medved, 1Health and Life Sciences, Brunel University London, Uxbridge, United Kingdom

B363/P3021 A kinetic framework of chromatin-organizing proteins. R. Ladurner1, J.C. Bell1, A.F. Straight1, 1Biochemistry, Stanford University, Stanford, CA

B364/P3022 Using Human Artificial Chromosomes to study the role of heterochromatin in human kinetochore maintenance and function. E. Pesenti1, N. Kouprina3, M. Liskovych1, V. Larionov2, H. Amin1, V. Vinciotti1, P. Vagnarelli1,2,3, H. Medved, 1Health and Life Sciences, Brunel University London, Uxbridge, United Kingdom

B365/P3023 Direct Visualization of Genomic Loci Relocation to Heterochromatic Condensates in Living Cells. H. MA1, Y. Feng2, Y. Zhao2, A. Naseri2, S. Zhang3, J. Zheng3, T. Pederson4, 1School of Life Science and Technology, ShanghaiTech University, Shanghai, China, 2School of Pharmacy, East China University of Science and Technology, Shanghai, China, 3Department of Computer Science, University of Central Florida, Orlando, FL, 4Department of Biochemistry and Molecular Pharmacology, University of Massachusetts Medical School, Worcester, MA

B366/P3024 Spreading of Chromatin-Mediated Gene Silencing and Reactivation in Mammalian Cells. S. Lensen1, L. Bintu2, 1Bioengineering, Stanford University, Stanford, CA

B367/P3025 Live-Cell Imaging of Chromatin Condensation Dynamics by CRISPR. Y. Xue1, M. Acar2,1, 1Department of Molecular, Cellular and Developmental Biology, Yale University, West Haven, CT

B368/P3026 The role of the CHIRRC complex in mitotic chromosome structure maintenance. P. Choppakata1, C. Jenness1, H. Funabiki2,1, 1LABORATORY OF CHROMOSOME AND CELL BIOLOGY, The Rockefeller University, New York, NY

B369/P3027 Cyto-ET reveals nucleosome reorganisation in condensed mitotic chromosomes in vivo. S. Cai1, C. Chen1, Z. Tan1, Y. Huang2, J. Shi1, L. Gan1, 1Department of Biological Sciences, National University of Singapore, Singapore, Singapore, 2Department of Biological Sciences and Mechanobiology Institute, Temasek Life Sciences Laboratory, Singapore, Singapore

B370/P3028 DNA methylation as a discrimination factor in the nucleosome self-assembly. H. Ito1, G. Chen1, T. Ohya2,3, Biology, Waseda University, Tokyo, Japan

B371/P3029 Chromatin organization regulates viral egress dynamics. S. Park1, S. Park1, M. Suga1,2, K. Konishi3, K. Akashi1, S. Golfier2,1, 1Laboratory of Cell Engineering, Department of Biological Sciences and Mechanobiology Institute, Temasek Life Sciences Laboratory, Singapore, Singapore

B372/P3030 A platform for investigating nuclear organization and its change during human iPS cell differentiation. S.M. Rafelski1, Allen Inst. for Cell Science, 2Allen Institute for Cell Science, Seattle, WA

B373/P3031 FoxA1 fluids chromatin through solid-to-liquid phase transition. T. Quail1,2, M. Elsner1, S. Goffler1, J. Brugues1,2,3, Max Planck for the Physics of Complex Systems, Dresden, Germany, 2Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, Germany

B374/P3032 Quantitative analysis of cell nuclei in mouse cerebellar cortex using Array Tomography and Deep neural network. M. Suga1, H. Nishioka1,2, Y. Maeda1,2, Y. Kataoka1, K. Ohta4, 1Department of Biochemistry and Molecular Pharmacology, University of Massachusetts Medical School, Worcester, MA, 2School of medicine, Kurume University, Kurume, Japan
**RNA Localization and Transport**

B377/P3035 Stabilization of poly(A)-RNA species by multiple initiating events leads to improper RNA processing and a generalized disruption in nuclear homeostasis.

B378/P3036 The Drosophila neuroblast: a model system for human ribosomal biogenesis.

B381/P3039 Mitochondrial concentration regulates protein production for respiration through mRNA localization in yeast.

B383/P3040 High throughput discovery of novel regulators of human ribosome biogenesis.

**Nuclear Bodies and Dynamics**

B384/P3041 The Drosophila neuroblast: a model system for human ribosomopathies.

B385/P3042 Large-scale mapping of the complex human nucleolar proteome.

B386/P3043 Prostaglandins regulate nuclear actin.

B387/P3044 Mechanical Response of Chromatin to DNA Damage.

B388/P3045 Nuclear rupture at sites of high curvature compromises retention of DNA repair factors.

B389/P3046 Mapping chromatin motions using structured illumination reveals loss of genomic cohesion in response to DNA damage.

**Tuesday Poster Session**

B393/P3050 Nuclear lipid droplets in hepatocytes originate from lipoprotein precursors and regulate phosphatidylinositol synthesis.

B394/P3051 Expressing GFP-collin from its endogenous promoter in Drosophila melanogaster.

B395/P3052 Dissecting the (patho-)physiological functions of NEAT1 isoforms.

B396/P3053 Stability of nucleosomin-formed oligomers detected by combination of in vitro and in vivo methods.

B397/P3054 Optogenetic Control of Nuclear Organization and its Influence on Metastatic Potential.

B398/P3055 Mechanical Interplay of Chromatin and Liquid-Liquid Phase Separated Condensates.

B399/P3056 Phase separation in transcriptional control of super-enhancer regulated genes.
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Tuesday Poster Session

B410/P3067 Repo-Man/PP1 regulates lamin A S22 phosphorylation. E. Gokhan1, P. Vagnarelli2, Health and Life Sciences, Brunel University London, Uxbridge, United Kingdom

B411/P3068 Mechanotransduction regulates cell nuclear shape and function through heterochromatin content and nuclear rigidity. A.D. Stephens1, P.Z. Liu2, V. Kandula3, H. Chen1, L.M. Almassalha3, V. Backman1, T. O’Halloran1, S.A. Adams1, R.D. Goldman1, E.J. Banigan1, J.F. Marko1,2, Department of Molecular Biosciences, Northwestern University, Evanston, IL, Department of Chemistry, Northwestern University, Evanston, IL, Department of Biomedical Engineering, Northwestern University, Evanston, IL, Department of Cell and Molecular Biology, Northwestern University Feinberg School of Medicine, Chicago, IL, Institute for Medical Engineering and Science, Massachusetts Institute of Technology, Boston, MA, Department of Physics and Astronomy, Northwestern University, Evanston, IL

B412/P3069 ER-resident transmembrane transcription factor OASIS accumulates in the nuclear bleb in response to the disruption of the nuclear lamina. K. Matsuki1, R. Asada1, M. Kaneko1, K. Imaizumi2, Department of Stress Protein Processing, Institute of Biomedical & Health Sciences, Hiroshima University, Hiroshima, Japan, Department of Biochemistry, Institute of Biomedical Health Sciences, Hiroshima University, Hiroshima, Japan

B413/P3070 The exocyst complex is required to maintain mammalian nuclear architecture. L.E. Adams1, B.K. Dean1, C.G. Horton1, J. Jourdain1, H.R. Dawe1, Biosciences, University of Exeter, Exeter, United Kingdom

B414/P3071 Gene screen reveals chromatin proteins influence abnormal nuclear morphology associated with breast cancer cell models. A.C. Tamashunas1, V.I. Tocci1, J. Matthews1, J.D. Licht1, A.D. Stephens1, H. Luesci1, T.P. Lele1, Chemical Engineering, University of Florida, Gainesville, FL, Medicinal Chemistry, University of Florida, Gainesville, FL, Medicine, University of Florida, Gainesville, FL, Molecular Biosciences, Northwestern University, Evanston, IL

B415/P3072 Ankyrins as novel components of the nucleoskeleton. S. Zarnick1, D.N. Lorenzo1, Cell Biology and Physiology, University of North Carolina at Chapel Hill, Chapel Hill, NC

B416/P3073 Nuclear envelope protein defects disrupt nucleo-cytoskeletal coupling and nuclear mechanics in muscle. G.R. Fedorchak1, N.M. Shaw1, L.L. Wallrath1, J. Lammerding1,2, Weil Institute for Cell and Molecular Biology, Cornell University, Ithaca, NY, Nanci E. and Peter C. Meinig School of Biomedical Engineering, Cornell University, Ithaca, NY, Department of Biochemistry - Carver College of Medicine, University of Iowa, Iowa City, IA

B417/P3074 Nuclear Lamin Protein Localization and Dynamics in Differentiating Human iPSC Cells. L.C. Wesley1, D.L. Levy2, MOB, University of Wyoming, Laramie, WY

Endocytic Trafficking 3

B420/P3076 A structural explanation for inactivation of AP2 clathrin adaptor complexes by NCEAPs. E.A. Partlow1, R.W. Baker2, G.M. Beacham1, J.S. Chappie1, A.E. Leschziner2, G. Hollopeter1, Department of Medicine, Cornell University, Ithaca, NY, Cellular and Molecular Medicine, University of California, San Diego, La Jolla, NY

B421/P3077 Novel function of IPla2 in the regulation of endocytic trafficking. Y. Shi1, F. Yang1, W. Zhao1, C.Y. Chung1, School of Pharmaceutical Science and Technology, Tianjin University, Tianjin, China

B419/P3078 Golgi and plasma membrane PI(4) P pools promote β-arrestin-dependent PI(4,5)P2 resynthesis and the endocytosis of desensitized GqPCR. S. Jung1,2, B. Hille1, D. Koh1, Physiology & Biophysics, University of Washington, Seattle, WA, Chemistry, University of Washington, Seattle, WA

B423/P3079 A LIM1 variant promotes low plasma LDL cholesterol and decreases intestinal cholesterol absorption. B. Song1, College of Life Sciences, Wuhan University, Wuhan, China

B424/P3080 LDLR-dependent LNP uptake modulate endosomal escape efficiency. J.R. SARKIS1, J. Georges1, T. Ketova1, K. Hoar1, C. Mihal1, J. Joyal1, In Vitro Biology, Moderna, Cambridge, MA

B425/P3081 Testing the glycolipid & lectin induced endocytosis in in-vivo model systems. A. Ivashenka1, M. Shafaq-Zadah1, C. Wunder1, L. Johannes1, Chemical Biology of Membranes and Therapeutic Delivery, Endocytic Trafficking and Intracellular Delivery Group, U1143/UMR 3666, INSERM/CNRS, Institut Curie, Paris, France

B426/P3082 Regulation of Art1-mediated endocytosis by a Sfn1-related kinase. J.M. Tumolo1, J.A. MacGurn1, Cell and Developmental Biology, Vanderbilt University School of Medicine, Nashville, TN

B427/P3083 PRRT2 Missense Mutations Cluster near C-terminus and Commonly Lead to Protein Mislocalization. F. Nian1,2, M. Tsai1, M. Hsu1, W. Liu1, Y. Liu1,2, P. Lin1, D. Hwang1, Y. Chuang1, J. Tsai1,2, Program in Molecular Medicine, National Yang-Ming University and Academia Sinica, Taipei, Taiwan, Department of Neurology, Kaohsiung Chang Gung Memorial Hospital, Taipei, Taiwan, Department of Pediatrics, Kaohsiung Chang Gung Memorial Hospital, Kaohsiung, Taiwan, Department of Life Sciences, National Yang-Ming University, Taipei, Taiwan, Department of Neurology, Neurological Institute, Taipei Veterans General Hospital, Taipei, Taiwan
B431/P3087 Reduced expression of the Endosomal Sorting Complex Required for Transport (ESCRT)-associated factor HD-PTP/PTP2N23 in mice causes reduced fat accumulation and increased mortality. B.A. Davies1, Z. He1, J.A. Payne1, C.P. Martin1, S.K. Jachim1, S.F. Bronk2, J. Keganathan1, B.G. Childs3, D.J. Baker4, J.M. Van Deursen1, D.J. Katzmann1, Department of Biochemistry and Molecular Biology, Mayo Clinic, Rochester, MN, 2Department of Biology, Wartburg College, Waverly, IA, Division of Gastroenterology, Mayo Clinic, Rochester, MN, 3Department of Pediatric and Adolescent Medicine, Mayo Clinic, Rochester, MN

B432/P3088 Solid Lipid Nanoparticles as Drug Delivery Systems for Cancer Therapy: Uptake and Effect of Antibody Conjugated Nanoparticles. M.K. Notabi1, M.O. Andersen2, E.C. Amspong1, Department of Chemical Engineering, Biotechnology and Environmental Technology, University of Southern Denmark, Odense M, Denmark

B433/P3089 UBASH3A regulates the synthesis and dynamics of T-cell receptor-CD3 complexes. Y. Ge1, T.K. Paisie1, S. Chen1,2,3, P. Concannon1, Department of Pathology, Immunology and Laboratory Medicine, University of Florida, Gainesville, FL, 2Genetics Institute, University of Florida, Gainesville, FL, 3Genetics Genomics Graduate Program, University of Florida, Gainesville, FL, 4Department of Biology, University of Florida, Gainesville, FL, 5Plant Molecular and Cellular Biology Program, University of Florida, Gainesville, FL, 6Interdisciplinary Center for Biotechnology Research, University of Florida, Gainesville, FL

B434/P3090 Involvement of the HPV E6 protein in the trafficking of several cellular SNX27 cargoes through the PDZ binding motif. P. Massimi1, J. Broniarczyk2, L. Banks2, Tumour Virology, ICGEB, Trieste, Italy

B435/P3091 Mutant p53 activates a Dynamin-1/APPL1 endosome nexus downstream of EGFRI/Akt to regulate beta-1 integrin recycling and migration. A.M. Lakoduk1, P. Roudot1, M. Mettlen1, H.M. Grossman1, S.L. Schmidt1, P. Chen1, Cell Biology, University of Texas Southwestern Medical Center, Dallas, TX

B436/P3092 Retromer regulates the localization of BCL-xL to mitochondria and affects mitochondrial pore formation and apoptosis. T.M. Farmer1, N. Naslavsky1, X. Luo1, S. Caplan1, Biochemistry and Molecular Biology, University of Nebraska Medical Center, Omaha, NE, 2Eppley Institute for Research in Cancer and Allied Diseases, University of Nebraska Medical Center, Omaha, NE

B437/P3093 Architecture of mammalian retromer by single particle cryo-EM. A.K. Kendall1, B. Xie2, C. Jung1, E. Binshtein1, S.E. Collier1, P. Xu1, R. Burcham1, T.R. Graham1, T. Nakagawa1, L.P. Jackson2, Biological Sciences, Vanderbilt University, Nashville, TN, Center for Structural Biology, Vanderbilt University, Nashville, TN

Endosomes, Lysosomes, and Lysosome-Related Organelles 2

B438/P3094 Cross-regulation of defective endolysosomal trafficking and enhanced autophagy through TFEB in UNC13D deficiency. J. Zhang1, J.L. Johnson1, G. Napolitano1, F. Rahman1, J. He1, S.D. Catz2, Molecular Medicine, The Scripps Research Institute, La Jolla, CA, 1TIGEM, Naples, Italy

B439/P3095 TFEB modulation in macrophages depends on Salmonella growth conditions. S. Inpanathan1, E.O. Escobar1, E. Miraglia1, R.J. Botelho1, Chemistry and Biology, Ryerson University, Toronto, ON

B440/P3096 Amyloid-β accelerates endosomal accumulation of microRNPs to promote an inflammatory response in Glial cells. D. De1, S. Guha1, I. Mukherjee1, R.K. Paid1, S. Chakrabarti1, S.C. Biswas2, S.N. Bhattacharya2, RNA Biology Research Laboratory, Molecular Genetics Division, CSIR-Indian Institute of Chemical Biology, Kolkata, India, 1Cell Biology and Physiology Division, CSIR-Indian Institute of Chemical Biology, Kolkata, India, 2Structural Biology and Bioinformatics Division, CSIR-Indian Institute of Chemical Biology, Kolkata, India

B441/P3097 In vivo evidence for an axonal Huntingtin-Rab7 complex in the endolysosome pathway. T.J. Krzyzek1, J.A. White1, H. Hofman-Glenon1, Y. Li1, S.D. Gunawardena1, Biological Sciences, State University of New York at Buffalo, Buffalo, NY

B442/P3098 Presenilins control endosomal recycling to maintain lysosomal clearance in aging and Alzheimer’s disease. M. Bretou1, R. Sannerud1, W. Vermeire1, D. Demedts1, W.G. Annaert1, 1Department of Neurosciences, VIB-KU Leuven Center for Brain Disease Research, Leuven, Belgium

B443/P3099 Macrophase catabolism of aggregated lipoproteins using a novel extracellular compartment regulates lipid accumulation during atherosclerosis. R.K. Singh1, A.S. Haka1, V.C. Barbosa-Lorenzi1, A. Asma1, F.W. Lund1, Y. Xiong1, H.F. Chin1, I. Groshova1, T. Hla1, F.R. Maxfield1, 1Biochemistry, Weill Cornell Medical College, New York, NY, 2Boston Children’s Hospital and Department of Surgery, Harvard Medical School, Boston, MA

B444/P3100 Intracellular Cholesterol Transport Requires STARD9, a Novel Multifunctional Kinesin that Couples LDL Uptake to Projection of Lysosomal Membrane Tubes. F.R. Newton1, S.N. Leahy1, E.M. Gertbauer1, P.S. Vaughan1, 1Biological Sciences, University of Notre Dame, Notre Dame, IN

B445/P3101 PPAR α, γ agonists and vascular statin enhance reverse cholesteral transport activity in foam cells. M. Mori1, M. Hikosaka1, K. Imai1, R. Motohashi1, S. Kikuchi1, M. Takahashi1, 1Cell Biol. Pathol., Chiba Inst. Sci., Choshi, Japan

B446/P3102 The Role of Phagolysosome Fragmentation in Phagosome Resolution and the Reformation of Lysosomes. A. Fontain1, R.M. Dayam1, C.E. Lancaster1, E. Somerville1, V. Jacobelli1, M.R. Terebiznik1, R.J. Botelho1, 1Department of Chemistry and Biology, Ryerson University, Toronto, ON, (Currently) Program in Cellular and Molecular Medicine, Harvard University and Boston Children’s Hospital, Boston, MA, 2Department of Biological Sciences and Department of Cell Systems Biology, University of Toronto at Scarborough, Scarborough, ON

B447/P3103 Dual modulation in the endolysosomal system mediated by host heterogeneity and mycobacterial surface lipids define the homeostasis of a Mycobacterium infected macrophage. K. Sachdeva1, M. Goel1, M. Sudhakar1, A. Singh1, K. Ramani1, V. Rao1, V. Sundaramurthy1, 1National Center for Biological Sciences, Bangalore, India, 2Structural Biology, Indian Institute of Technology, Chennai, India, 3Microbiology and Cell Biology, Indian Institute of Science, Bangalore, India, 4Institute of Genomics and Integrative Biology, New Delhi, India

B448/P3104 Degradation of Bio1 mRNA by the unfolded protein response repositions lysosomes and protects cells from stress. D. Bae1, K.A. Moore1, J. Mella1, S. Hayashi1, J. Hollien1, 1Biological Sciences, University of Utah, Salt Lake City, UT

B449/P3105 The V domain of B10 family proteins modulates Vps4 activity and responds to ubiquitin. C. Tsen1, D.J. Katzmann1, B.A. Davies1, N.I. Pashkova1, R. Piper1, J.A. Payne1, 1Mayo Clinic Graduate School of Biomedical Sciences, Rochester, MN, 2Department of Biochemistry and Molecular Biology, Mayo Clinic, Rochester, MN, 3Department of Molecular Physiology and Biophysics, Carver College of Medicine, University of Iowa Health Care, Iowa City, IA
**Vesicle Docking and Fusion**

**B456/P3112 To pinpoint the location and the orientation of proteins associated with dense-core vesicles using CLEM.** B. Prasai1, K.A. Sochacki1, J.A. Ciemiennicki1, J.W. Taraska1; 1Biochemistry and Biophysics Center, National Institute of Genetics, Shizuoka-ken, Japan

**B457/P3113 Alpha-Granule Cargo Release is Initiated by SNARE-dependent Matrix Deconcentration in Mouse Platelets.** I.D. Pokrovskaya1, S. Joshi1, M. Tobin1, R. Desai1, M. Aronov1, J.A. Kamyskowski1, S.W. Whiteheart2, R.D. Lea2; 1Pharmacology and Biophysics, University of Arkansas for Medical Sciences, Little Rock, AR, 2Department of Molecular and Cellular Biochemistry, University of Kentucky, Lexington, KY; 3Laboratory of Cellular Imaging and Macromolecular Biophysics, NIH, NIBIB, Bethesda, MD

**B458/P3114 COG and GARP vesicle tethering complexes are essential for the maintenance of Golgi glycosylation machinery.** J.B. Blackburn1, T. Kudlyk1, Z.C. D’Souza1, V. Lupashin1; 1Pharmacology, UAMS, Little Rock, AR

**B459/P3115 Membrane tension and osmotic forces drive vesicle-membrane merging and contents release during exocytosis.** R. Su1, S. Thiyagarajan1, B. O’Shaughnessy1; 1Chemical Engineering, Columbia University, New York, NY

**B460/P3116 The three stages of Ca-triggered neurotransmitter release: unclamping, SNARE ring assembly, and SNARE-mediated fusion.** Z.A. McDargh1, A. Polley1, J. Wang2, B. O’Saughnessy2; 1Chemical Engineering, Columbia University, New York, NY, 2Biozentrum, University of Basel, Basel, Switzerland

**B461/P3117 Rates of SNARE-mediated membrane fusion increase with number of SNAREs due to cooperative entropic forces.** Z.A. McDargh1, A. Polley1, B. O’Shaughnessy2; 1Chemical Engineering, Columbia University, New York, NY

**B462/P3118 A new role of the exocyst complex in the modulation of for signalling.** C.G. Horton1, J. Jourdain1; 1Biosciences, University of Exeter, Exeter, United Kingdom

**B463/P3119 SNAP-47 and TRIM67 mediate the ability of vesicles to undergo full-vesicle-fusion vs. kiss-and-run fusion during exocytosis.** F.L. Urbina1, S.L. Gup ton1, S. Menon1; 1Cell Biology and Physiology, University of North Carolina at Chapel Hill, Chapel Hill, NC

**B464/P3120 Phospholipase D regulates synaptic vesicle turnover.** R.S. Thakur1, R. Padinjat1; 1Cellular Organization and Signalling, National Centre for Biological Sciences, Bangalore, India

**B465/P3121 Plasma membrane disruption using the piezo system and study for the repair functions.** V. Lytnev2, K. Miyake2; 1School of Medicine, International University of Health and Welfare, Narita, Japan, 2Center for Basic Medical Research, Narita Campus, International University of Health and Welfare, Narita, Japan

**B466/P3122 An automated image analysis and machine learning technique for quantification of discrete exocytic events.** Z.Y. Weinberg1, E. Evans1, T. Phan2; 1Biology, Carnegie Mellon University, Pittsburgh, PA, 2Department of Biological Sciences, Carnegie Mellon University, Pittsburgh, PA

**Establishment and Maintenance of Polarity 2**

**B468/P3123 Oligomerization and positive feedback on membrane binding and lateral mobility promote self-stabilizing unipolar PAR-3 asymmetries in the C. elegans zygote.** C.F. Lang1, A. An necken1, E.M. Munro1; 1Committee on Genetics, Genomics, and Systems Biology, University of Chicago, Chicago, IL, 2Department of Cell Biology, Yale University, New Haven, CT, 3Department of Molecular Genetics and Cell Biology, University of Chicago, Chicago, IL

**B469/P3124 Cytokineti c bridge triggers de novo lumen formation in vivo.** L.T. Rathbun1, E. Colicino1, S. Couyne1, G. Erdemci-Tandogan1, A. Garragtegui1, J. Freshour1, P. Santra1, L. Manning1, J.D. Amack1, H.A. Hehnly1; 1Department of Cell and Developmental Biology, Upstate Medical University, Syracuse, NY, 2Biology Department, Syracuse University, Syracuse, NY, 3Department of Physics, Syracuse University, Syracuse, NY
B491/P3145 Sacman the protein product of the gene mutated in the recessive ataxia ARSACS regulates organelle positioning. V.G. Francis,1, W.A. Alshafie1, R. Lariviereb, B. Braisa,1 P.S. McPherson;1 1Montreal Neurological Institute, McGill University, Montreal, QC

B492/P3146 Examining the role, localization, and dynamics of α-Synuclein at the synapse during endocytosis. P.L. Colosi1,2,3, K.J. Vargas1,3, E.M. Girardi1,2,3, S.S. Chandra1,2,3; 1Neurology, Yale University, New Haven, CT, 2NIH PREP Program, Yale University, New Haven, CT, 3Neuroscience, Yale University, New Haven, CT

B493/P3147 Transport of Mbp mRNA by Dynnein and Myosin Motors in Oligodendrocytes is Critical for Local Translation and Myelination. M. Fu1, C. Lee2, B.A. Barres3; 1Neurobiology, Stanford University, Stanford, CA

B494/P3148 Mitochondria tune neuronal computation in the Drosophila visual system. E.L. Barnhart1,2, C. Desplang1, T.R. Clad1; 1Neurobiology, Stanford, Stanford, CA, 2Biology, University of Chicago, Chicago, IL

B495/P3149 Dynamic phosphorylation of WIP1/S28 is required to counteract an age-related decline in autophagosome biogenesis in neurons. A.K. Stavoe1, E.L. Holzbaur1; 1Department of Physiology, University of Pennsylvania, Philadelphia, PA

B496/P3150 SYD-2 Liprin is a candidate neuronal subarne of the Anaphase Promoting Complex in C. elegans. T.J. Prechtl1, L. Campagnoli1, D. Lester1, K. Rush1, J.R. Kowalski1; 1Biological Sciences, Butler University, Indianapolis, IN

B497/P3151 TMEM24 (C2CD2L), a neuron-enriched lipid transporter localized at ER-plasma membrane contact sites and regulated by calcium. E.W. Sun1, A. Guillién Samander1, X. Bian1, Y. Wu1, Y. Cai1, M. Messa1, P. De Camilli1; 1Cell Biology, Yale University, New Haven, CT

B498/P3152 The Sufficient and Necessary Condition of Fast Spiking in Mammalian Central Neurons. Y. Gu1, C. Gu1; 1Biological Chemistry and Pharmacology, Ohio State University, Columbus, OH

B499/P3153 Identification of PPT1 substrates to study the role of palmitoylation in synaptic function. E.L. Gorenberg1, V. Chou1, G. Wirak1, T. Lam1, S.S. Chandra1; 1Interdepartmental Neuroscience Program, Yale University, New Haven, CT, 2Department of Neurology, Yale University, New Haven, CT, Yale/NIDA Neuroproteomics Center, Yale University, New Haven, CT

B500/P3154 The chromatin remodeling enzyme, Kismet, affects synaptic cell adhesion molecule levels and synaptic endocytosis. B. Harsin1, F.L. Liebl2; 1Biology, Southern Illinois University Edwardsville, Edwardsville, IL, 2Biotechnology, Kyungpook National University, Daegu, Korea, South Korea

B501/P3155 Kismet Positively Regulates Endocytosis and Influences the Localization of Presynaptic Endocytic Proteins. K.N. Lane1, K. Bernard1, F.L. Liebl2; 1Biology, Southern Illinois University Edwardsville, Edwardsville, IL

B502/P3156 The autophagy proteins, Atg1 and Atg8a, influence glutamate receptor localization at the Drosophila neuromuscular junction. K. Bernard2, F.L. Liebl2; 1Biological Sciences, Southern Illinois University Edwardsdale, Edwardsville, IL

Tuesday Poster Session

B503/P3157 Characteristics of the monoclonal antibody O-12F7 in recognizing human normal and cancer cells. K. Yoshimura1,2, K. Fujimaki-Aoba1, Y. Ogawa1, M. Takahashi1, A. Shiroto1, C. Tokunaga1, K. Suzuki1, M. Kato1, Y. Miyawaki1, M. Mita1, M. Nishina1, S. Watanabe1, H. Asou1; 1Medical and General Sciences, Nihon Institute of Medical Science, Moroyama, Japan, 2Physiology, Saitama Medical University, Moroyama, Japan, 3Rehabilitation, Nihon Institute of Medical Science, Moroyama, Japan, 4Biomedical Research Center, Saitama Medical University, Moroyama, Japan, 5Glia Myelin Research Institute, Yokohama, Japan

B504/P3158 Novel Rat Monoclonal Antibody Against Murine P2RY12 for Specific Detection and Isolation of Microglia. A. Cartier1, L. Dissing-Olesen1, H. Zhang1, J. Moyron-Quiroz2, K. Cohane1, M. Tam1, B. Stevens1, P. Taylor1; 1Neuroscience, BioLegend, San Diego, CA, 2Boston Children’s Hospital, Boston, MA, 3Immunology, BioLegend, San Diego, CA

Neuroprotection and Regeneration

B505/P3159 Bioassay-Guided Fractionation of A. milieifolium Extract to Screen for Neuroprotective Compounds. C. Leone1, D. Sanzhikov1, A. Patel1, J. Vazquez2, A. Suryanarayanan1, B. Peethambaran2; 1Chemistry, University of the Sciences in Philadelphia, Philadelphia, PA, 2Biology, University of the Sciences in Philadelphia, Philadelphia, PA, 3Pharmacology and Toxicology, University of the Sciences in Philadelphia, Philadelphia, PA

B506/P3160 Combining optical and chemical stimulations to induce the regrowth of damaged neurites. Y. Kao1, Y. Liao2, P. Cheng3, C. Lee1; 1Research Center for Applied Sciences, Academia Sinica, Taipei, Taiwan, 2Institute of Biophotonics, National Yang-Ming University, Taipei, Taiwan, 3Institute of Molecular Biology, Academia Sinica, Taipei, Taiwan

B507/P3161 Protection of zinc-induced neuronal death by lefunomide via caspase-3-dependent PARP cleavage and attenuation of NAD+ depletion. J. Sul1, J. Hong1, J. Jung1, J. Hwang2,3; 1Department of Convergence Medicine, University of Ulsan College of Medicine, SEOUl, South Korea, 2Asan Institute for Life Sciences, Asan Medical Center, Seoul, South Korea

B508/P3162 Iron overload-induced neuronal cell death is prevented by Peroxiredoxin 5 through inhibiting mitochondrial fragmentation and ER stress in HT-22 cells. M. Kim1, M. Kam1, D. Lee1; 1Biotechnology, Kyungpook National University, Daegu, Korea, South Korea

B509/P3163 Docosahexaenoic acid improves motor function after spinal cord injury in rats by induces changes in microglia/macrophage polarization. O.S. Manzhulo1, A.A. Tytrushnyia1, I.V. Dyuizen1, I.V. Manzhulo1, Y. Kipruushina1; 1National Scientific Center of Marine Biology FEB RAS, Vladivostok, Russia

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Establishing and Maintaining Organelle Structure 2

BS17/P3171 Protective effects of LIF on neuronal synaptic integrity in an animal model of the HIV-1 associated neurocognitive disorder. J.M. Alves1, N. Guevara2, Z. Reyes3, M.L. Cruz4, B.P. Velazquez2, E. Santiago2, Z.M. Rios2, R. Hunter3, R.J. Noel4, J.D. Geiger5; 1Microbiology Immunology, Universidad Central del Caribe, Bayamón, PR, 2Basic Sciences, Ponce Health Sciences University, Ponce, PR, 3Virology, Universidad Central del Caribe, Bayamón, PR, 4Biomedical Sciences, University of North Dakota, Dakota, ND

BS18/P3172 Elucidating the neuroprotective mechanism of action of compounds derived from petroleum ether Achillea millefolium extract using in vivo and in vitro models of Parkinson's. A. Patel1, C. Leonce1; 1Biological Sciences, University of the Sciences in Philadelphia, Philadelphia, PA

BS12/P3166 Intercellular adhesion molecule 1 (ICAM1) renders neuroprotection and improves cognitive behaviour in animal model of Alzheimer's disease by regulating the NF-kB signaling pathway. S. Guha1; 1Department of Psychological and Brain Sciences, the Linda and Jack Gill Center for Bimolecular Sciences, Bloomington, IN, 2Harvard Medical School, Systems Biology Harvard Program in Therapeutic Science, Boston, MA

BS13/P3167 Role of neuronal SphK1 in protecting against Alzheimer's disease. H. Jin1, J. Lee1, S. Han2, B. Baek3, B. Choi4, J. Bae4; 1College of Veterinary Medicine, Kyungpook National University, Daegu, South Korea, 2School of Medicine, Kyungpook National University, Daegu, South Korea

BS14/P3168 Phosphoglycerate mutase 1 promotes cell proliferation and neuroblast differentiation in the dentate gyrus by facilitating the phosphorylation of CAMP response element-binding protein. I. Hwang1, W. Kim1, S. Yi1, H. Kwon1, D. Kim1, Y. Yoon1; 1Department of Anatomy and Cell Biology, Seoul National University College of Veterinary Medicine, Seoul, South Korea, 2Seoul National University Research Institute for Veterinary Science, Seoul, South Korea, 3Department of Biomedical Laboratory Science, Soochunhyang University College of Medical Sciences, Asan, South Korea, 4Department of Biochemistry and Molecular Biology, Gangneung-Wonju National University College of Dentistry, Gangneung, South Korea

BS15/P3169 Phosphoproteomics of the mammalian growth cone reveals that phosphorylation of GAP-43 by JNK is specific to the growing/regenerating axon. M. Igarashi1; 1Dept Neurochem Mol Cell Biol, Niigata Univ Grad Sch Med Dent Sci, Niigata, Japan

BS16/P3170 Profilin1 coordinates actin and microtubule dynamics to enhance axon growth and regeneration. R. Pinto-Costa1, S.C. Leite2, S.C. Sousa2, J. Nogueira-Rodrigues2, M.A. Liz3, M.M. Sousa1; 1ICBAS-Instituto de Ciências Biomédicas Abel Salazar da Universidade do Porto, Porto, Portugal, 2Department of Neurobiology and Neurologic Disorders, I3S-IBMC, Porto, Portugal
of HIV. S. Sengupta, A.Y. Seo, H. Pasolini, J. Lippincott-Schwartz, M. Johnson;
1Janelia Research Campus, Howard Hughes Medical Institute, Ashburn, VA, 2Molecular Microbiology and Immunology, University of Missouri, Columbus, MO
B545/P3198 Genome-wide CIRI SP screens for Shiga toxin and Ricin reveal Golgi proteins critical for glycosylation. S. Tian1, M. Dong1,2;
1Urology, Boston Children’s Hospital, Boston, MA, 2Microbiology and Immunobiology, Harvard Medical School, Boston, MA
B546/P3199 Energy transfer between the major light harvesting complex LHCCI and photosystem II. L Li1, C. Yang2; 1Key Laboratory of Photobiology, Institute of Botany, Chinese Academy of Sciences, Beijing, China
B547/P3200 ANXAA is localized in platelet α-granules and inhibits the blood coagulation reaction of the intrinsic pathway. M. Nakayama1,2, H. Miyagawa1, Y. Karanami1, C. Léon1, J. Weber1, K. Kojima-Aikawa1;
1Graduate School of Humanities and Sciences, Ochanomizu University, Tokyo, Japan, 2Program for Leading Graduate Schools, Ochanomizu University, Tokyo, Japan, 3BPPS UMR-S 1255, FMTS, Université de Strasbourg, INSERM, EFS Grand Est, Strasbourg, France, 4Natural Science Division, Faculty of Core Research, Ochanomizu University, Tokyo, Japan
B548/P3201 Establishing a molecular toolbox to study the distribution and functions of phosphatidylinositol. J.G. Pemberton1, Y. Kim1, M.K. Karzeniowski1, N. Sengupta1, D.J. Totti1, E. Boura1, T. Balla2; 1Section on Molecular Signal Transduction, Eunice Kennedy Shriver National Institute of Child Health and Human Development, Bethesda, MD, 2Institute of Organic Chemistry and Biochemistry, Czech Academy of Sciences, Prague, Czech Republic
B549/P3202 Lipid engagement regulates cytotoxicity of cholesterol-dependent cytolsins. R. Thapa1, S. Ray1, P.A. Keyel1;
1Department of Biological Sciences, Texas Tech University, Lubbock, TX
B550/P3203 ER and lipid droplets reciprocally influence each other during Drosophila oogenesis. J.M. Thomalla1, T.L. Toole2, M.A. Welte1; 1Biological Sciences, Texas Tech University, Lubbock, TX
B551/P3204 CRD-a-Cryo-electron microscopy structure of the lipid droplet formation protein seipin. X. Sui1,2, H. Hirt1, K.P. Brock1, Z. Weng Lai2, F. DiMaio1; 1S. Marks1, M. Liao1, R.V. Fareses, Jr1,2, T.C. Walther1,2,3,7, Cell biology, Harvard Medical School, Boston, MA, 2Genetics and complex diseases, Harvard University, Boston, MA, 3Systems biology, Harvard University, Boston, MA, 4Biochemistry, University of Washington, Seattle, WA, 5Institute of Protein Design, University of Washington, Seattle, WA, 6Broad Institute of MIT and Harvard, Cambridge, MA, 7Howard Hughes Medical Institute, Boston, MA
B552/P3205 Characterization of functional sequence motifs in protein inhibitors of adipose triglyceride lipase (ATGL). L.E. Campbell1, X. Xie1, X. Zhang1, A. Zhao1, A. Saarinen1, J. Liu1; 1School of Life Sciences, Arizona State University, Tempe, AZ,

Tuesday Poster Session

B553/P3206 Interpreting Leydig cell cholesterol and lipid metabolism through analysis of the metabolome. P.P. Koganti1, L.N. Tu1, V. Selvaraj1; 1Department of Animal Sciences, College of Agriculture and Life Sciences, Cornell University, Ithaca, NY

Kinasas and Phosphatases 2

B555/P3207 Regulation of pannexin 1 channel gating by Ser/Thr-protein kinases. X.M. López1,2, R. Escamilla1, J.C. Sáez1,2; 1Department of Physiology, Pontifical Catholic University of Chile, Santiago, Chile, 2Millennium Institute, Interdisciplinary Center of Neurosciences of Valparaíso, Valparaíso, Chile
B556/P3208 Defining allosteric mechanisms of P13K signaling using hydrogen deuterium exchange mass spectrometry. G.L. Dornan1, B.D. Siempelkamp1, M.L. Jenkins2, C.L. Lucas2, J.E. Burke2; 1Department of Biochemistry and Microbiology, University of Victoria, Victoria, BC, 2Department of Immunology, Yale University, New Haven, CT
B557/P3209 Switching of the folding-energy landscape governs the allosteric activation of protein kinase a. J.P. England1, Y. Hao1, L. Bai1, S.S. Taylor1, H.C. Hodges2,3, R.A. Maillard1; 1Chemistry, Georgetown University, Washington, DC, 2Department of Pharmacology Department of Chemistry Biochemistry, University of California, San Diego, La Jolla, CA, 3Department of Molecular and Cellular Biology, Baylor College of Medicine, Houston, TX
B558/P3210 Myristoylated PKC-ζ pseudosubstrate peptide induces Glutamate release in RPE cells. I. Lee-Rivera1, E.C. Lopez-Hernandez1, A. López-Colomé1; 2Molecular Neuropharmacology, Instituto de Fisiología Celular, Universidad Nacional Autónoma de México, Mexico City, Mexico
B559/P3211 Functional and Biological Studies Associated to DUSP3-HNRNPC Interaction in Protein Translation. F.L. Forti1, P.V. Minaya Ferruzo1; 1Department of Biochemistry, University of Sao Paulo-Institute of Chemistry, Sao Paulo, Brazil
B560/P3212 Identification and Characterization of a Novel Phosphoregulatory Site on Cyclin-dependent Kinase 5. B.L. Roach1, J.M. Ngo1, C. Limso1, D. Bhandari1; 1Chemistry, Biochemistry, California State University Long Beach, Long Beach, CA
B561/P3213 The enigma of nuclear Akt: Molecular mechanisms of Akt kinase activation in the nucleus. B. Sinkovics1, M. Ebner1, F. Gasser1, J. Yudushkin1; 1Dept. of Structural and Computational Biology, University of Vienna, Vienna, Austria, 2Dept. for Molecular Pharmacology and Cell Biology, Leibniz Institute for Molecular Pharmacology (FMP), Berlin, Germany

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BS56/P3214 A tail of kinase regulation: how C-termini modulate CK1 substrate phosphorylation. S.N. Cullati1, J. Chen2, K.L. Gould1; 1Cell & Developmental Biology, Vanderbilt University, Nashville, TN

BS53/P3215 Specific regulation of KCNN2/3 channels and store-operated calcium entry by type I phosphatidylinositol phosphate kinases. J.B. Jensen1, L. de la Cruz2, B. Hille3; 2Physiology and Biophysics, University of Washington, Seattle, WA

BS64/P3216 Icariside B2, a Terpene Glucoside, Attenuates Neuro-Inflammation in LPS (lipopolysaccharide)-Induced BV-2 Microglia Cells. Y. Kwon1, J. Lim2, H. Ann1, M. Alum1, S. Lee1; 1Food Science Technology, Kyungpook National University, Daegu, South Korea

BS65/P3217 Augmentation of glucose uptake by ethanolic extract of Parthenocissus tricuspidata stem on the streptozotocin-induced type 2 diabetes through the activation AKT/AMPK/GLUT4 signaling. J. Lim3, Y. Kwon1, H. Ann1, H. Choi1, M. Alum1, S. Lee1; 2Food Science Technology, Kyungpook National University, Daegu, South Korea

BS66/P3218 Oroxylin indicum seed extract exhibits anti-melanogenic effect through the MAPK/MITF signaling pathway. H. Choi1, P. Zhao1, M. Alum1, H. An1, C. Yoo1, H. Kim1, S. Lee1; 1Department of Food Science and Biotechnology, Kyungpook National University, Daegu, South Korea, 2Food and Bio-Industry Research Institute, Kyungpook National University, Daegu, South Korea, 3MR Innovation Co., Ltd., KNU Technopark, Daegu, South Korea

BS67/P3219 From network analysis to experimental validation: identification of regulators of non-muscle myosin II contractility using the folded-gastrulation of regulators of non-muscle myosin II experimental validation: identification of regulators of non-muscle myosin II signaling. W. Wu1, J. Kim2, J. Kwon1, Y. Park1, H. Park1; 1Department of Life Sciences, Seoul National University, Seoul, South Korea, 2Department of Pathology, UHMC

BS68/P3220 Protein Phosphatase 1 D Dephosphorylates Atypical PKC and Regulates its Function in Intestinal Epithelial Cells. A. Mashukova1,2, Y. Hao1, R. Fortezza1, P.J. Salas1; 1College of Medical Sciences, Department of Physiology, Nova Southeastern University, Fort Lauderdale, FL, 2Department of Cell Biology, Miller School of Medicine, University of Miami, Miami, FL

BS69/P3221 Inhibition of melanogenesis by Nymphaea nouchali (Burn.f) flower extract through regulation of proteasomal degradation and MAPKs/MTT-mediated tyrosinase downregulation. H. Ann1, M. Alum1, S. Lee1; 1Department of Food Science Biotechnology, Kyungpook National University, Daegu, South Korea, 2Food and Bio-industry Research Institute, Kyungpook National University, Daegu, South Korea

Tuesday Poster Session

BS570/P3222 Arachidonic Acid Induces Are/NFR2-Dependent heme Oxygenase-1 Expression in Rat Brain Astrocytes. C. Yang1; 1Pharmacology, Chang Gung University, Tao-Yuan, Taiwan

BS571/P3223 Progestosterone Receptor Regulation of Interferon Signaling in Breast Cancer. K. Walter1, G. Trinc1, M. Goodman1, C. Hagan1; 1Cancer Biology, University of Kansas Medical Center, Kansas City, KS

BS572/P3224 Involvement of FOXA1 in resistance to TGF-beta-induced apoptosis in estrogen receptor-positive breast cancer cells. N. Yamaguchi1, Y. Takakura1, K. Hirata1, H. Takano1, N. Yamaguchi1; 2Graduate School of Pharmaceutical Sciences, Chiba University, Chiba, Japan

BS573/P3225 Matritapase-2 Suppression of Hecipdin Expression Requires the Stem Region and Transmembrane Domain in Addition to its Catalytic Domain. P. Mao1, A.M. Wortham1, C.A. Enns1, A. Zhang1; 1Department of Cell, Developmental, and Cancer Biology, Oregon Health & Science University, Portland, OR

BS574/P3226 Placenta-derived mesenchymal stem cells attenuate adipogenesis and enhance fatty acid oxidation in a rat model of bile duct ligation. J. Jun1, J.J. Kim1, S. Jin1, B. Sae1, C. Kim1; 1Biomedical Science, CHA University, Seongnam, South Korea, 2Internal Medicine, Catholic University Medical College, Seoul, South Korea, 3Oral medicine and diagnosis, Gangneung national university, Gangneung, South Korea

BS575/P3227 Understanding cardiomyocyte mechanosensing utilizing CRISPR-Cas9 based screening methods. F. Ladha1, A. Pettinato1, K. Thakar1, J.T. Hinson1; 1The Jackson Laboratory of Genomic Medicine, Farmington, CT, 2Genetics and Developmental Biology, University of Connecticut School of Medicine, Farmington, CT

BS576/P3228 A nuclear envelope function for STING in mediating innate immunity to RNA viruses? C.R. Dixon1, E.C. Schirmer1, J. de las Heras1; 1WCCB, University of Edinburgh, EDINBURGH, United Kingdom

BS577/P3229 Spatiotemporal analysis of phosphatidic acid formation, during osmotic stress in Arabidopsis thaliana. R.W. Ndathe1, N. Kato1; 1Biological Sciences, Louisiana State University, Baton Rouge, LA

BS578/P3230 Disease-specific alteration of karyopherin-alpha subtypes establishes feed-forward oncogenic signaling in squamous cell carcinoma. M. Hazawa1,2,3, K. Sakai1, A. Kobayashi1,2, R.W. Wong1,2; 1Institute for Frontier Science Initiative, Kanazawa University, Kanazawa, Japan, 2Institute of Science and Engineering, Kanazawa University, Kanazawa, Japan, 3WPI Nano Life Science Institute, Kanazawa University, Kanazawa, Japan

BS579/P3231 Aldose Reductase and NFR2 Regulation by Tobacco Exposure in Abdominal Aortic Aneurysms. A. Ghosh1, A. Abdallah1, W. Krause1, S. Kasten1, S. Neriy1, A. Hirve1, J.L. Elion1; 1Vascular Surgery, University of Michigan Medical School, Ann Arbor, MI

BS580/P3232 Mechanisms and physiological implications of LGR4-dependent and LGR5-independent potentiation of WNT signaling by R-spondins. A.M. Lebensohn1, R. Rohatgi2; 1Laboratory of Cellular and Molecular Biology, Center for Cancer Research, National Cancer Institute, National Institutes of Health, Bethesda, MD, 2Biochemistry, Stanford University School of Medicine, Stanford, CA

BS581/P3233 Pathophysiology of Obesity-Associated Metabolic Inflammation: NFκB Cellular Pathway and Its Role in Modulating Autophagy. M. Cabai1; 1Biological Sciences, SUNY-Old Westbury, Old Westbury, NY

Mechanotransduction 2

BS583/P3234 Cellular Mechanophenotyping Using Mechano-Node-Pore Sensing. L.L. Sohn1, J. Kim1, M. Miyano1, J. Bloom1, V. Srivastava1, M. Stapper1, Z.J. Gartner2; 1Mechanical Engineering, University of California, Berkeley, Berkeley, CA, 2Population Sciences, City of Hope, DUARTE, CA, 3Chemical Pharmacy, Chemistry, University of California, San Francisco, San Francisco, CA, 4Biological Systems and Engineering Division, Lawrence Berkeley National Laboratory, Berkeley, CA

BS584/P3235 Non-autonomous regulation of cell growth in Drosophila follicular epithelium. S. Row1, W. Deng1; 1Department of Biological Science, Florida State University, Tallahassee, FL

BS585/P3236 Force-dependent arrest of keratinocyte proliferation and its potential defect in skin cancer. H. Hirata1,2, A. Enomoto1, M. Sunagawa1, O. Dobrokhотов1,2, M. Takahashi1, M. Samsonov1, M. Sokabe1; 1Mechanobiology Laboratory, Nagoya University Graduate School of Medicine, Nagoya, Japan, 2R-Pharm Japan, Tokyo, Japan, 3Department of Pathology, Nagoya University Graduate School of Medicine, Nagoya, Japan, 4R-Pharm, Moscow, Russia

BS586/P3237 Hyperactive Rac1 drives MAPK-independent proliferation in melanoma by assembly of a mechansensitive dendritic actin network. A.S. Mohan1, K.M. Dean1, T. Isogai1, S.Y. Kasintin2, V. Sirivallur Murali3, S.J. Han1,2, J. Noh1, P. Poudot1, A. Grosiman1, E.S. Welf1, G. Danuser1; 1Bioinformatics, UT Southwestern Medical Center, Dallas, TX, 2Children’s Research Institute, UT Southwestern Medical Center, Dallas, TX, 3Biomedical Engineering, Michigan Technological University, Houghton, MI, 4Physics, University of California, San Diego, San Diego, CA

BS587/P3238 Single Grb2 recruitment dynamics are modulated by ECM mechanics. D. Thakar1, S.T. Low-Nam2, F. Kii1, J.N. Lakins1, G. Oui1, S.D. Hansen1, J.T. Groves1; 1Department of Surgery, University of California San Francisco, San Francisco, CA, 2Department of Chemistry, University of California Berkeley, Berkeley, CA, 3Department of Anatomy, University of California San Francisco, San Francisco, CA, 4Department of Bioengineering and Therapeutic Sciences, University of California San Francisco, San Francisco, CA
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Tuesday Poster Session

Intermediate Filaments

B597/P3248 Feeling the squeeze: How motile cellscope with different types of confinement. P. Mistriotis1, E. Wisniewski1, K. Bera1, R.A. Law1, Y. Li1, S. Tuntanhvorwat1, N.P. Gonzalez2, A. Athinos2, R. Zhao3, M. Weigert4, P. Friedli4, S.X. Sun5, P. Kalabi5, K. Konstantopoulos1; 1Chemical and Biomolecular Engineering, The Johns Hopkins University, Baltimore, MD, 2Mechanical Engineering, The Johns Hopkins University, Baltimore, MD, 3Genitourinary Medical Oncology, The University of Texas MD Anderson Cancer Center, Houston, TX, 4Cell Biology, Radboud University Medical Center, Nijmegen, Netherlands

B598/P3249 Three-dimensional confinement regulates collective epithelial cell migration. A. Glentis1, T. Dang1, J. D'Alessandro1, R. Mége1, B. Ladoux1; 1UMR7592, Institut Jacques Monod, Paris, France

B599/P3250 High intracellular pressure promotes epithelial tissue integrity. P. Chengappp1, T.M. Jones1, R.J. Petrie1; 1Biology, Drexel University, Philadelphia, PA

B600/P3251 CLASPs regulate microtubule-dependent mechanosensing during 3D cell migration. R.J. Ju1, Y. Chhabra1, R. Dolcetti1, B.M. Hogan1, N.K. Haass1, N.K. Haas2; 1The University of Queensland Diamantina Institute, Brisbane, Australia, 2The University of Queensland Institute for Molecular Bioscience, Brisbane, Australia

B601/P3252 Constricted migration and associated nuclear damage impair myoblast differentiation. L.R. Smith1,2,3, M. Johnson1,2, 1Biological Sciences, University of California San Diego, San Diego, CA, 2Department of Cell and Molecular Biology, The University of California San Diego, San Diego, CA, 3Department of Molecular Biology and Biochemistry, University of California San Diego, La Jolla, CA

B602/P3253 Mechanosensitivity in the LIM domain family of proteins. J.D. Winkelman1, C.A. Anderson2, D.R. Kovar2,3, M.L. Gardel2,1; 1Institute for Biophysics, The University of Chicago, Chicago, IL, 2Department of Molecular Genetics and Cell Biology, The University of Chicago, Chicago, IL, 3Biochemistry and Molecular Biology, The University of Chicago, Chicago, IL

B603/P3254 Experimental and computational methodologies to measure intercellular forces during tissue development. E. Criado-Hidalgo1, Y. Yeh1, J.C. Lasheras1, J. Del Alamo1; 1Mechanical and Aerospace Engineering, University of California San Diego, San Diego, CA

B604/P3255 Nuclear Mechanotransduction in Embryonic Stem Cells; How Does Force Transmission to the Nucleus Mediate Differentiation? M.S. Hamouda1,2, K. Chalut3, G. Wylie1,2; 1NHBLI, NIH, Bethesda, MD, 2Physics, Cambridge Stem Cell Institute, Cambridge, United Kingdom
Signaling Networks Governing Cell Migration

B613/P3264 Investigating the Rho GTPase network during collective border cell migration. A.K. Mishra1, J. Mondo1, D.J. Montell1; 1Department of Molecular, Cellular and Developmental Biology, University of California Santa Barbara, Santa Barbara, CA

B614/P3265 Tes Modules RhoA Activity. C.E. Tolbert1, M. Martin1, T. Higgins1, M. Way1; 1Cellular Signalling and Cytoskeletal Function Laboratory, The Francis Crick Institute, London, United Kingdom

B615/P3266 PI-3 Kinase drives amoeboid migration by polarizing pressure-based protrusions. E.S. Well1, M.K. Driscoll1, E. Sapoznik1, K.M. Dean1, R. Fiokla1, G. Danuser1; 1UT Southwestern Medical Center, Dallas, TX

B616/P3267 Green tea modulates quiescence/mobilization of hematopoietic immature cells through APC/ECFR/PAR-1 axis. C.O. Torello1, E.V. De Paula1, T.C. L. Castro1, F. Martins1, R.N. Shiraishi1, F.I. Della Via1, I. Santos1, M.C. Alvarez1, M.L. Queiroz1, S.T. Saad1; 1Hematology and Transfusion Medicine Center, University of Campinas, Campinas, Brazil

B617/P3268 Semaphorin-plexin signalling controls epithelial cell adhesion and migration. C. Jiang1, T. Worzfeld2,3, 1Institute of Pharmacology, University of Marburg, Marburg, Germany, 2DFG Research Training Group, Membrane Plasticity in Tissue Development and Remodeling, GRK 2213, University of Marburg, Marburg, Germany, 3Department of Pharmacology, Max-Planck-Institute for Heart and Lung Research, Bad Nauheim, Germany

B618/P3269 Injury Induces Purioreceptor-Specific Calcium Mobilizations That Facilitate Cell-Cell Communication. Y.K. Lee1, V. Trinkaus-Randall1, M. Kim1; 1Pharmacology, Boston University School of Medicine, Boston, MA, 2Medicine, Boston University School of Medicine, Boston, MA, 3Biochemistry, Boston University School of Medicine, Boston, MA

B619/P3270 Expanding the realm of Rab GTPase function: Evidence for Rab40beta/Cul5 mediated Rap2a regulation during cell migration. E.D. Duncan1, E. Linklater1, R. Prekeris1; 1Cell and Developmental Biology, University of Colorado, Anschutz Medical Campus, Aurora, CO

B620/P3271 Stress hormone signaling through β-adrenergic receptors regulates mechanotyope and function of immune cells and cancer cells. T. Kim1,2, C. Ly1, E.K. Sloan3,4,5,6, A.C. Rowat1,2, Semmel Institute for Neuroscience and Human Behavior, University of California, Los Angeles, Los Angeles, CA, 1Integrative Biology and Physiology, University of California, Los Angeles, Los Angeles, CA, 2Bioengineering, University of California, Los Angeles, Los Angeles, CA, 3UCLA Jonsson Comprehensive Cancer Center, Los Angeles, Los Angeles, CA, 4UCLA AIDS Institute, Los Angeles, CA, 5Monash Institute of Pharmaceutical Sciences, Monash University, Melbourne, VIC, Australia, 6Division of Cancer Surgery, Peter MacCallum Cancer Centre, Melbourne, VIC, Australia

B621/P3272 Analysing contributions of α4 and α9 integrins to epithelial cell migration. W. Hight-Warburton1, R. Felix1, A. Burton1, H. Maple1, J. McGrath1, M. Parsons1; 1Randall Centre for Cell Molecular Biophysics, King’s College London, London, United Kingdom, 2Bio-Techne, Bridgewater, United Kingdom, 3St. Johns Institute for Dermatology, King’s College London, London, United Kingdom

B622/P3273 Differential Gene Expression in Response to Esotaxis Cues. S.J. Gates1, M.J. Horowitz1, R.M. Lee1, P.H. Alvarez2, W. Losert1, J.T. Fourkas2; 1Physics, University of Maryland, College Park, College Park, MD, 2Chemistry, University of Maryland, College Park, College Park, MD

B623/P3274 An adhesion-independent cell migration mode driven by membrane flow. P.R. O’Neill1, J.A. Castillo-Badillo1, X. Mesih1, V. Kalyanaraman1, K. Melgarejo1, N. Gautam1,2; 1Anesthesiology, Washington University School of Medicine, St. Louis, MO, 2Anesthesiology, Washington University School of Medicine, St. Louis, MO

B624/P3275 Straightness-induced endothelial DCL-1 expression forces leukocyte spreading through stabilization of the ICAM-1 adhesion. J.D. Van Buul1, L. Schimmel1; 1Molecular Cell Biology, Sanquin Research and Landsteiner Laboratory, Amsterdam, Netherlands

B625/P3276 A Zinc transporter (Catsup) regulates Notch signaling and affects ER homeostasis during Drosophila border cell migration. X. Guo1, D.J. Montell1; 1MDCB, University of California, Santa Barbara, Santa Barbara, CA

B626/P3277 Vinculin Force Sensors Detect Tumor-Organocyte Interactions. F. Li1, A. Chen1, A. Reeser1, Y. Wang1, Y. Fan1, S. Liu1, X. Zha01, R. Prakash1, D. Kota1, B. Li1, H. Yokota1, J. Liu1; 1Physics, Indiana University Purdue University Indianapolis, Indianapolis, IN, 2Biomedical Engineering, Indiana University Purdue University Indianapolis, Indianapolis, IN, 3Pharmacology, Harbin Medical University, Harbin, China, 4Peking Union Medical College Hospital, Chinese Academy of Medical Sciences, Beijing, China, 5NanoScience and Nanoengineering, South Dakota School of Mines and Technology, Rapid City, SD

B627/P3278 Investigating the role of C16orf74-calcineurin interactions in PDAC progression. D.A. Bradburn1,2, C.P. Wigington1, M. Pule1, M.S. Cytet1; 1Biology, Stanford University, Stanford, CA, 2Bio-Techne, Bristol, United Kingdom, 3St. Johns Institute for Dermatology, King’s College London, London, United Kingdom

B628/P3279 Cell Migration Coordination by Site-Dependent Cell-Cell Contact. D. Li1, Y. Wang1; 1Biomedical Engineering, Carnegie Mellon University, Pittsburgh, PA

B629/P3280 Understanding internal cell coordination during migration. K. Vaidzilyte1,2,3, K. Schauer1, M. Coppey1; 1Laboratoire Physico Chimie Curie, Institut Curie, PSL Research University, Sorbonne Université, CNRS, Paris, France, 2Faculty of Science and Engineering, Sorbonne Université, Paris, France, 3Subcellular Structure and Cellular Dynamics Unit, Institut Curie, PSL Research University, Sorbonne Université, CNRS, Paris, France

B630/P3281 Live imaging of axolotl appendage regeneration reveals the cellular source and coordination of regenerated connective tissue and skeletal tissue via PDGF-dependent cell migration. J.D. Currie1, A. Kawaguchi1, R. Moreno Traspas1, M. Schuez2, O. Chara3, E.M. Tanaka4; 1Cell and Systems Biology, University of Toronto, Toronto, ON, 2Institute of Molecular Pathology, Vienna, Austria, 3Center for Regenerative Therapies, Technische Universität Dresden, Dresden, Germany, 4Center for Information Services and High Performance Computing (ZIH), Technische Universität Dresden, Dresden, Germany

B631/P3282 Active PI3K is required for proper actin dynamics and directed cell migration in parietal endoderm. A. Ferraj1, M.C. Tuohey1, J.P. Mulrooney1; 1Biomolecular Sciences, Central Connecticut State University, New Britain, CT

B632/P3283 Optical control of RhoA activation reveals roles for ROCK and Src in focal adhesion disassembly. J. Ju1, L. Ning2, M.Z. Lin1, J. Seong1; 1Brain Research Institute, Korea Institute of Science and Technology (KIST), Seoul, South Korea, 2Bioengineering and Neurobiology, Stanford University, Stanford, CA

B633/P3284 Snail and Slug regulate sustained motility mediated by activation of PI3K-Akt signaling following MEK inhibition in metastatic triple negative breast cancer. J. Kwon1, D.M. Helfman1; 1Department of Biological Sciences, Korea Advanced Institute of Science and Technology, Daejeon, South Korea

B634/P3285 Regulation of Cell Migration and GTPase Function Through Mechanical Control of RNA Localization. K. Moissgoglu1, M. Stueland1, S. Mill1; 1Laboratory of Cellular and Molecular Biology, Center for Cancer Research, National Cancer Institute, NIH, Bethesda, MD

B635/P3286 IL-6 signaling controls chemotaxis of mature dendritic cells through CCR7 internalization. Defining the roles of fascin1 in promoting both IL-6 signaling and CCR7 surface expression. F. Matsumura1, R. Polz2, S. Singh3, S. Yamashiro1, J. Scheller2; 1Molecular Biology Biochemistry, Rutgers, Piscataway, NJ, 2Institute of Biochemistry and Molecular Biology II, Heinrich-Heine-Universität Düsseldorf, Düsseldorf, Germany, 3Department of Pathology Laboratory Medicine, Rutgers, New Jersey Medical School, Newark, NJ
Integrins and Cell-ECM Interactions 2

B640/P3290 Ligand Geometry Controls Adhesion formation via Integrin Clustering. R. Changede1, H. Cai1, S.J. Wind2, M.P. Sheetz3; 1Mechanobiology Institute, Singapore, Singapore, 2Applied Physics and Applied Mathematics, Columbia University, New York, NY, 3Biochemistry, Cell and Developmental Biology Graduate Program, Emory University, Atlanta, GA, 4Department of Bioengineering and Therapeutic Sciences, University of California, San Francisco, San Francisco, CA, 5Department of Cell Biology, Emory University, Atlanta, GA

B641/P3291 Nanowires that interact with beta b1 integrin increase transepithelial permeability and induce cytoskeletal rearrangement. R.J. Peterson1,2, C.R. Zamecnik1, T.A. Desai1, M. Koval1,2; 1Division of Pulmonary, Allergy, Critical Care and Sleep Medicine, Emory University, Atlanta, GA, 2Biochemistry, Cell and Developmental Biology Graduate Program, Emory University, Atlanta, GA, 3Department of Bioengineering and Therapeutic Sciences, University of California, San Francisco, San Francisco, CA, 4Department of Cell Biology, Emory University, Atlanta, GA

B642/P3292 Superresolution architecture of pluripotency guarding adhesions. A. Stub1, C. Guzman1, E. Narva1, J. Aaron2, T. Chew2, M. Saari1, M.S. Mihkinnen1, G. Jacquemet1, J. Ivasaki1; 1Centre for Biotechnology, University of Turku, Turku, Finland, 2Advanced Imaging Center, HHH1 Janelia Research Campus, Ashburn, VA

B643/P3293 Cell-substrate adhesion regulates early steps of myofibrillogenesis in human cardiomyocytes. A. Neining1, N. Taneja1, D. Burnette1; 1Cell and Developmental Biology, Vanderbilt University, Nashville, TN

B644/P3294 B-parvin orchestrates the induction of physiological cardiac hypertrophy. I. Thienesv1,2, E. Suhr1,2, R.T. Böchter1,2, B. Fabry1, W. Bloch1, R. Fässler1,2; 1Muscle Research Center Erlangen, Erlangen, Germany, 2Molecular Medicine, Max Planck Institute of Biochemistry, Martinsried, Germany, 3Biophysics, Friedrich-Alexander-University of Erlangen-Nuremberg, Erlangen, Germany, 4Cellular and Molecular Sport Medicine, German Sport University, Cologne, Germany, 5Biomedical Sciences, Katholieke Universiteit Leuven, Leuven, Belgium, 6Munich Heart Alliance, Munich, Germany

B645/P3295 Local arrangement of fibronectin by myofibroblasts governs peripheral neural positioning in muscle cells. W. Roman1,2, J.P. Martins1, E.R. Gomes1; 1Cell Biology, Instituto de Medicina Molecular, Lisbon, Portugal, 2Cell Biology, University Pompeu Fabra, Barcelona, Spain

B646/P3296 PXI-1, a RHO-GEF, That Directs Site Specific Assembly of Integrin Adhesion Complexes in Striated Muscle. J.C. Moody1, H. Qadota1, A.R. Reedy1, N. Shanmugan1, L. Lesanpezheski1, S. Vanapalli1, Y. Matsunaga1, G.M. Benian1; 1Pathology, Emory University, Atlanta, GA, 2Chemical Engineering, Texas Tech University, Lubbock, TX

B647/P3297 PAI-1 mediates fibroblast-mast cell interactions in a mouse model of fibrosis. N. Pincha1,2, E.Y. Hajam1, K. Badarinath1,2, T. Masudi1, C. Jamora1; 1Manipal Academy of Higher Education, Bangalore, India, 2Centre for Inflammation and Tissue Homeostasis, IFOM-inStem joint research laboratory, inStem, Bangalore, India, 3National Centre for Biological Sciences, Bangalore, India

B648/P3298 Degradation of alpha v, alpha 2 and beta 1 integrin subunits by mast cell protease 7 induces angiogenesis in vitro and in vivo. D.A. Souza-Junior1, A.C. Santana1, M.C. Jamur1, C. Oliver2; 1Department of Cell and Molecular Biology and Pathogenic Bioagents, Ribeirão Preto Medical School - USP, Ribeirão Preto, Brazil

B649/P3299 Distinct Mechanisms of Integrin Activation in Regulatory T Cells and Other Leukocytes Can Modulate Autoimmunity. H. Sun1; 1Department of Medicine, University of California, San Diego, San Diego, CA

B650/P3300 NCAM expression modulates actin cytoskeletal processes in human immune cells. A.L. Dixon1, J.T. Gunesch1, J.S. Orange1, E.M. Mace1; 1Rice University, Houston, TX, 2Texas Children’s Hospital, Houston, TX, 3Pathology and Immunology, Baylor College of Medicine, Houston, United States, 4Pediatrics, Columbia University Medical Center, New York, NY

B651/P3301 Precise Coupling Between Stereocilia and the Tectorial Membrane Depends On Stereocilia Elongation. L. Andrade1, M. Grati1, S. Ebrahim2, F. Salles1, U. Manor1, B. Kachar2; 1Watt Advanced Biophotonics Center, Salk Institute for Biological Studies, La Jolla, CA, 2Laboratory of Cell Structure and Dynamics, NIDCD, Bethesda, MD

Structure and Function of the Extracellular Matrix

B657/P3307 A C. elegans Patched-related protein is required for apical extracellular matrix assembly of a Zona Pellucida domain protein. J.D. Cohen1, M.V. Sundaram2; 1Genetics, University of Pennsylvania, Pennsylvania, PA

B658/P3308 Important Role of Heparan Sulfate in Skeletal Muscles. T. Yoshikawa1, M. Yokoyama1, T. Matsuura2, K. Yanai1; 1Pharmacology, Tohoku University Graduate School of Medicine, Sendai, Japan

B659/P3309 Vitronectin deficiency attenuates hepatic fibrosis in a non-alcoholic steatohepatitis-induced mouse model. M. Hayashida1, K. Hashimoto1, T. Ishikawa2, Y. Miyamoto1; 1Life Sciences, Ochanomizu University, Tokyo, Japan

B660/P3310 Overexpression of tenasin-C in mouse hearts may augment inflammation and impair tissue repair after myocardial infarction. S. Yonebayashi1, K. Tajiri1, T. Kimura1, A. Sato1, S. Sakai1, M. Hiroe2, D. Katoh3, T. Yoshida4, K. Imanaka-Yoshida5; 1Cardiology, Tsukuba University, Tsukuba, Japan, 2Cardiology, National Center for Global Health and Medicine, Tokyo, Japan, 3Pathology and Matrix Biology, Mie University, Tsu, Japan

B661/P3311 Cell Autonomous Effect of Thrombospondin-1 on Macrophage Recruitment. H. Yang1, T. Zhou1, C. Assa1, B. Liu1, B. Liu2; 1Surgery, University of Wisconsin-Madison, Madison, WI
Chaperones, Protein Folding, and Quality Control 2

B675/P3324 Parallel genome-wide CRISPR analysis identified substrate-specific modules and a role for heterotypic ubiquitin chains in ER-Associated Degradation. D.E. Leto1, D.W. Morgens1, L. Zhang1, C.P. Walczak1, J. Elias2, M.C. Bassik1, R.R. Kopito1; 1Department of Biology, Stanford University, Stanford, CA, 2Department of Genetics, Stanford University, Stanford, CA, 3Department of Chemical and Systems Biology, Stanford University, Stanford, CA, 4Program in Chemistry, Engineering and Medicine for Human Health, Stanford University, Stanford, CA

B676/P3325 The Sigma-1 Receptor: Investigating a role for the S1R in autophagy and ER-associated protein degradation pathways. K.L. Ferguson1, T.T. Nguyen1, P. Chudalayandi1,2,3, R. Bergeron1,2,4; 1Cellular and Molecular Medicine, University of Ottawa, Ottawa, ON, 2Ottawa Hospital Research Institute, Ottawa, ON, 3Department of Chemistry, Lafayette College, Easton, PA

B677/P3326 The Role of Sigma-1 Receptor in Endoplasmic Reticulum Stress and Alzheimer’s Disease. T.T. Nguyen1,2, K.L. Ferguson1, P. Chudalayandi1,2, R. Bergeron1,2; 1Neuroscience, Ottawa Hospital Research Institute, Ottawa, ON, 2Cellular and Molecular Medicine, University of Ottawa, Ottawa, ON

B678/P3327 E2 and E3 Ubiquitin Ligases in the ERAD Pathway Regulate Neuronal Receptors in C. elegans. L.L. Dahlberg1, A. Cheney2, S. Witus3, M. Chapman1, D. Hassell1, A.M. Rupert1, R.L. Uhrich1, M. Lezyte1; 1Biology, Western Washington University, Bellingham, WA, 2Montana State University, Bozeman, MT, 3Biochemistry, University of Washington, Seattle, WA

B679/P3328 Loss of ER resident proteins in response to calcium depletion is counteracted by KDEL receptor upregulation. K. Trychta1, S. Back2; 1M. Chapman, B.K. Harvey; 2National Institute on Drug Abuse, Baltimore, MD

B680/P3329 Selective, stress-enhanced ER-export of misfolded secretory pathway proteins. C. Bi1,2, B.S. Park1,3, K.S. Budharaju4,5, N.R. Sharma6, P. Satpute-Krishnan7; 1Thomas Jefferson High School for Science and Technology, Alexandria, VA, 2Biochemistry and Molecular Biology, Uniformed Services University, Bethesda, MD


B682/P3331 Novel disease mutations and candidate disease variants in the Unfolded Protein Response regulator, ATF6. W. Chiang1,2, D. Chao1, J.A. Thorson1, S. Tsang1, S. Koh1, S.R. Lambert1, J. Carroll1, A. Moore2, J.H. Liu3,4,5; 1Pathology, University of California, San Diego, La Jolla, CA, 2VA San Diego Healthcare System, La Jolla, CA, 3Ophthalmology, University of California, San Diego, La Jolla, CA, 4Ophthalmology, Columbia University, New York, NY, 5University of Tübingen, Tübingen, Germany, 6Ophthalmology, Stanford University, Stanford, CA, 7Ophthalmology, Medical College of Wisconsin, Milwaukee, WI, 8Ophthalmology, University of California, San Francisco, San Francisco, CA

B683/P3332 Unraveling the Mystery of Alpha-Synuclein and Mitochondrial dysfunction in Parkinson’s Disease. X. Zhan1,2,3, L. Ruan1,2,4, J. Zhu1,2,3, L. Guo1,2; 1Center for Cell Dynamics, Department of Cell Biology, Johns Hopkins University School of Medicine, Baltimore, MD, 2Diana Helis Henry Medical Research Foundation, New Orleans, LA, 3Department of Chemical and Biomolecular Engineering, Whiting School of Engineering, Johns Hopkins University, Baltimore, MD, 4Biochemistry, Cellular and Molecular Biology (BCMB) Graduate Program, Johns Hopkins University School of Medicine, Baltimore, MD

B684/P3333 Engineering Kapβ2 to recover nuclear localization of ALS-associated mutant FUS. C.M. Fare1, L. Guo; 1Center for Biochemistry and Biophysics, University of Pennsylvania, Philadelphia, PA

B685/P3334 A Systematic Approach to Evaluate the Effects of Prion Amino Acid Composition on Chaperone Requirements for Propagation in Yeast. A.N. Killian1, S.J. Cole1, S.C. Miller1, J.K. Hines1; 1Chemistry, Lafayette College, Easton, PA

B667/P3321 Crosstalk between Trabecular Force Generation and Fibronectin Patterning in 3-Dimensional Fibrin Matrices. M. Miron-Mendoza1, N. Garcia-Ramila1, D. Vazquez1, W.M. Pettolli1; 1Department of Ophthalmology, Southwestern Medical Center, University of Texas, Dallas, TX

B672/P3324 Ascorbic acid and TGF-β1 differentially modulate composition, structure and mechanical properties of the corneal endothelial extracellular matrix. I. Jalilian1, S. Muppalia1, V.K. Raghunathani1, J. Anderson2, B. Phinne1, M. Salemi1, P. Wilmarth1, C.J. Murphy2, S.M. Thomasy3,4; 1Department of Surgical and Radiological Sciences, University of California Davis, Davis, CA, 2Department of Biomedical Engineering, University of Houston, Houston, TX, 3Department of Otolaryngology, UC Davis Medical Center, Sacramento, CA, 4Proteomics Core, University of California Davis, Davis, CA, 5Proteomics Shared Resources, Oregon Health and Science University, Portland, OR, 6Department of Ophthalmology, Vision Science, UC Davis Medical Center, Sacramento, CA

B673/P3323 Extracellular Matrix Derived from Mice with Lamin A/C mutations causing Muscular Dystrophy lead to Alterations in Muscle Differentiation and Maturation. A.J. Earle1, H. Zheng1, S. Modi1; 1Department of Ophthalmology, Vision Science, UC Davis Medical Center, Sacramento, CA

B666/P3316 3-methyladenine inhibits the procollagen-1 and fibronectin expression of dermal fibroblast in an autophagy-independent manner. J. Jung1, H. Choi2, D. Shin2, E. Son3, H. Kim; 1AmorePacific RD Center, Yongin-si, South Korea

B667/P3317 Solubilized eggshell membrane supplies a type III collagen-rich elastin dermal papilla. Y. Atomi1, E. Fujita1, M. Shimizu1, S. Sano1, M. Kurimoto1; 1Department of Biomedical Chemistry, Tokyo University of Pharmacy and Life Sciences, Tokyo, Japan

B668/P3318 Low adhesive scaffold collagen prepared from type I collagen induces the chondrogenic differentiation of human bone marrow stromal cells. S. Kunii1, K. Morimoto1, K. Nomizu1; 1Biologie oriented Science and Technology, Kindai University, Kinokawa, Japan

B669/P3319 Low adhesive scaffold collagen promotes cell motility of fibroblasts spheroid by regulating gene expression. S. Kunii1, Y. Horiiuchii1, K. Morimoto1; 1Biologie oriented Science and Technology, Kindai University, Kinokawa, Japan, 2Life Science Laboratories, Kindai University, Osaka-Sayama, Japan
B687/P3335 Utilizing extant sequence diversity in prion-forming domains in yeast to probe the effect of amino acid content on molecular chaperone requirements. S.F. Schock1, A.M. Noite1, S.E. Berger1, J.K. Hines1; 1Chemistry, Lafayette College, Easton, PA

B687/P3336 Conservation of diverse prion-propagating functions in A. thaliana orthologs of the yeast molecular chaperone Sis1. S.J. Cole1, R.E. Brown1, T.L. Bruner1, J.K. Hines1; 1Chemistry, Lafayette College, Easton, PA

B688/P3337 The roles of J-proteins in Hsp104-mediated curing of prion [PSI+]. S.E. Berger2, E. Kamiya1, J.K. Hines1; 1Chemistry, Lafayette College, Easton, PA

B689/P3338 Nuclear-import receptors reverse aberrant phase transitions of disease-linked RNA-binding proteins with prion-like domains. L. Guo1, H. Kim1, H. Wang1, J. Monaghan1, F. Freyermuth1, J.C. Sung1, K. O’Donovan1, Z. Diaz1, N. Singh1, Z. Zhang1, C.M. Fare1, E.A. Sweeney1, M. DeSantis1, M.E. Jackrel1, C.B. RODELL1, J.A. Burdick1, O. King1, A. Gitler2, C. Lagier-Tourenne3, U.B. Pandey1, Y. Chook1, J. Taylor1, J. Shorter1; 1Department of Biochemistry and Biophysics, Perelman School of Medicine, The University of Pennsylvania, Philadelphia, PA, 2Department of Cell and Molecular Biology, St. Jude Children's Research Hospital, Memphis, TN, 3Department of Pediatrics, Children’s Hospital of Pittsburgh, Pittsburgh, PA, 4Department of Neurology, Massachusetts General Hospital, Harvard Medical School, Boston, MA, 5Broad Institute of Harvard University and MIT, Cambridge, MA, 6Institute of Life Sciences, Southeast University, Nanjing, China, 7Department of Bioengineering, The University of Pennsylvania, Philadelphia, PA

B690/P3339 Mammalian Secretion Machinery Requirements for Recombinant Protein Expression. M. Samoudi1,2, S. Kol1, T. Wuclf3, B.G. Volborg4, A.R. Campos5, N.E. Lewis1,2; 1Pediatrics, Child Neurology and Neurobiology, Children’s Hospital of Pittsburgh, Pittsburgh, PA, 2Department of Neurology, Massachusetts General Hospital, Harvard Medical School, Boston, MA, 3Broad Institute of Harvard University and MIT, Cambridge, MA, 4Institute of Life Sciences, Southeast University, Nanjing, China, 5Department of Bioengineering, The University of Pennsylvania, Philadelphia, PA

B691/P3340 Stress-induced phase separation as an adaptive strategy to regulate gene expression. C. Iserman1, T.M. Franzmann1, M. Jaehn2,2, A.W. Fritsch1, M. Wittasch1, D. Richter1, C. Desroches Altamirano1, M. Kreyzing1, S. Alberti1; 1Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, Germany, 2Biotech, Technische Universität Dresden, Dresden, Germany

B692/P3341 Investigating dispersal of stress-induced poly(A)-binding protein aggregates (Pab1) by Hsp104 disaggregation system. H. Yoo1, E. Pilipenko1, D.A. Drummond2; 1Biochemistry and Molecular Biology, University of Chicago, Chicago, IL

B693/P3342 The organization and consequence of accumulating unfolded proteins in mitochondria. L. Ruan1,2, X. Zhang1,2, J. McNamara1,2, A. Chang1,2, J. Zhu1,2, C. Na1,2, A. Peterson1, R. Li1,2; 1Department of Cell Biology, Johns Hopkins University School of Medicine, Baltimore, MD, 2Department of Chemical and Biomolecular Engineering, Johns Hopkins University, Baltimore, MD, 3Biochemistry, Cellular and Molecular Biology (BCMB) Graduate Program, Johns Hopkins University School of Medicine, Baltimore, MD

B694/P3343 Glucose-induced unfolded protein response extends lifespan of aged animals independently of FOXO signalling pathway. L. Wang1, C. Beaudoin-Chabot1, G. Thibault1; 1School of Biological Sciences, Nanyang Technological University, Singapore, Singapore

B695/P3344 Extremely long-lived mitochondrial proteins in neuronal aging. E. Bomba1, J. Savas1; 1Neurology, Northwestern University, Chicago, IL

B696/P3345 Age-induced large and stable P-bodies predict the future lifespan of yeast. J. Choi1, S. Wang1, B.M. Zid2; 1The Department of Chemistry and Biochemistry, The University of California, San Diego, La Jolla, CA

B697/P3346 Organoids reveal roles for multicellular interactions that establish aging-related epigenetic and transcriptional states in human mammary epithelia. M. Miyano1, R. Sayaman1, M. Todhunter1, M. Stampfer1, M.A. LaBarge1,2; 1Population Sciences, Beckman Research Institute at City of Hope, Duarte, CA, 2Center for Cancer and Aging, City of Hope, Duarte, CA, 3Biological Systems and Engineering, Lawrence Berkeley National Laboratory, Duarte, CA

B698/P3347 Accelerated Senescence following DNA Damage is Linked to Histone Ubiquitination and Destruction upon Loss of BRCA1 Associated Protein Brap. Y. Guo1, A.A. Lanctot1, Y. Feng1; 1Biochemistry and Molecular Biology, Uniformed Services University of the Health Sciences, Bethesda, MD, 2Neurology, Northwestern University School of Medicine, Chicago, IL

B699/P3348 NBS1 Counters cGAS-Mediated Premature Senescence In Response to Dysfunctional Telomeres. S. Bhattacharya1, S. Abdissaalam1, A. Aroumougame1; 1Radiation Oncology, University of Texas Southwestern Medical Center, Dallas, TX

B700/P3349 JK-mediated spindled reorientation in stem cells promotes loss of tissue homeostasis in the aging intestinal epithelium. D.J. Hu1, H. Jasper2; 1Immunology Discovery, Genentech, South San Francisco, CA, 2Buck Institute of Research for Aging, Novato, CA

B701/P3350 The Influence of Pseudomonas Syringae DC3000 Infection on Arabidopsis Thaliana Plant Telomere Length. A.V. Sannikova1, L.R. Valeeva1, L. Abdulkina1, M.R. Sharipova1, E.V. Shakirow1; 1Institute of Fundamental Medicine and Biology, Kazan Federal University, Kazan, Russia

B702/P3351 Nicotinamide and PI3K inhibitors suppression of senescent cell phenotypes involving autophagy signaling. K. Matsuoka1, K. Sasaki2, K.Y. Chen3, 1Pharmacy, Chiba Institute of Science, Choshi, Chiba, Japan, 2Chemistry/ Chemical Biology, Rutgers, State University of NJ, Piscataway, NJ

B703/P3352 Translocation of YAP in mammalian stress response and senescence. I.A. Bagdasarian1, J.T. Morgan1; 1Bioengineering, University of California- Riverside, Riverside, CA

B704/P3353 Noncanonical ATG8-AB53 signaling controls proteostasis and aging in plants. X. Liu1, M. Jia1, F. Yu2; 1State Key Laboratory of Crop Stress Biology for Arid Areas and College of Life Sciences, Northwest AF University, Yangling, China

B705/P3354 Evaluation of Cellular Senescence through Fluorescence Characterization. S.T. Clarke1, T. Jackson1, Q. Low1, S. Huang1, A. Kelley1, Y. Hu1, V. Calderon1; 1Cellular Biology, Thermo Fisher Scientific, Eugene, OR, 2Linus Pauling Institute, Oregon State University, Corvallis, OR

B706/P3355 Characterization of DAF-18/PTEN as a critical effector of DAF-16-mediated immunity in adult Caenorhabditis elegans. K. Carrasco1, M.J. Youngman1; 1Biology, Villanova University, Villanova, PA

B707/P3356 Leveraging gametogenesis-specific rejuvenation pathways to counteract cellular aging. T.L. Sing1, K. Conlon1, E.M. Sawyer1, J. Barker1, E. Unal1; 1Molecular and Cell Biology, University of California, Berkeley, Berkeley, CA

B708/P3357 A genetic screen reveals multiple components of a quality control switch enabling proteostasis renewal in maturing C. elegans oocytes. M. Samaddar1, J. Goudeau2, C. Kenyon1; 1Calico Life Sciences LLC, South San Francisco, CA

B709/P3358 Dissecting the Functional Interplay Between Mitochondria and Lysosomes. C.E. Hughes1, T.K. Coody2, M. Jeong3, D. Winge4, A.L. Hughes1; 1Biochemistry, University of Utah, Salt Lake City, UT

B710/P3359 Aβ oligomers induce Blood-brain-barrier impairment in Alzheimer’s disease. L.D. Estrada1, P. Ahumada1, J. Espinoza2, R. Morales-Loyola1; 1CIBQA-Deppto. Ciencias Quimicas-biologicas, Universidad Bernardo O’ Higgins, Santiago, Chile, 2Neurology, University Texas Health Science Center, Houston, TX

Tuesday Poster Session
Mechanobiology of Cells and Tissues 2

B714/P3362 Fluidic Surfaces as Research Tools for Mechanobiological Modulations of Cell Morphologies. M. Maruyama1, T. Sasaki1, M. Matsumori1; 1RD Group, Hitachi Ltd., Hitachi, Japan

B715/P3363 A Quantitative model for metabolic flexibility in neurons through glucose-mediated regulation of mitochondrial trafficking. A. Agrawal1, E. Bushong2, E. R. Arrojo E Drigo1,2, E. Sokol1; 1Department of Biochemistry, Sackler School of Graduate Studies, Raymond and Beverly Sackler Convergence Laboratory, Tufts University School of Medicine, Boston, MA, 2Department of Biology, Massachusetts Institute of Technology, Cambridge, MA, 3Department of Radiation Oncology, Tufts Medical Center, Boston, MA

B716/P3364 Protein binding specificity to lipid droplets. A. R. Thiam1; 1Physics/Biophysics, LPS/ENS Paris, Paris, France

B717/P3365 Heat oscillations driven by the embryonic cell cycle arise from the energetic costs of signaling. J. Rodenfels1, J. Howard1, K.M. Neugebauer1; 1Molecular Biophysics and Biochemistry, Yale University, New Haven, CT

B718/P3366 Diffusive search processes inside reticulated organelles. A.I. Brown1, E.F. Koslover1; 1Physics, University of California, San Diego, La Jolla, CA

B719/P3367 Defects in IMPDH1 filament assembly result in blindness in humans. A.L. Burrell1, M.C. Johnson1, J.M. Kollmann1; 1Biochemistry, University of Washington, Seattle, WA

B720/P3368 Characterization of Cell Boundary and Confocal Effects Improves Quantitative FRAP Analysis. J.L. Kingsley1, J.P. Bibeau1, S.I. Mousavi1, C. Ursal1, L. Vidal1, E. Tuzel1; 1Department of Physics, Worcester Polytechnic Institute, Worcester, MA, 2Department of Biology and Biotechnology, Worcester Polytechnic Institute, Worcester, MA

B721/P3369 Mutations, Epistasis, and Allostery from a thermodynamic perspective: A predictive theory for transcriptional regulatory networks. G.D. Chure1, M. Razore-Mejia1, S.L. Barnes1, N.M. Belliveau1, T. Eina1, M. Lewis1, R. Phillips1; 1Biological and Biological Engineering, California Institute of Technology, Pasadena, CA, 2Physics, California Institute of Technology, Pasadena, CA, 3Biochemistry and Biophysics, University of Pennsylvania, Philadelphia, PA

B722/P3370 Buffering protein noise by liquid–liquid phase separation. A. Klosin1, F. Oltsch2, F. Julicher1, A.A. Hyman1, C. Zechner1,2; 1Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, Germany, 2Center for Systems Biology Dresden, Dresden, Germany, 3Max Planck Institute for the Physics of Complex Systems, Dresden, Germany

B723/P3371 Cytoplasmic density effects on cell physiology and mechanics in fission yeast. P.O. Odermatt1,2, K.C. Huang2, F. Chang2; 1Bioengineering, Stanford University, Stanford, CA, 2Cell and Tissue Biology, University of California, San Francisco, San Francisco, CA

B724/P3372 Towards statistical mechanics for self-organizing brain tumors. P.R. Lowenstein1,2, A. Comba1,2, A.E. Argento1,2, P.J. Dunn1,2, P. Kadiyal1,2, S. Motsch2, M.G. Castro1,2; 1Dept. of Neurosurgery, University of Michigan Medical School, Ann Arbor, MI, 2Dept. of Cell and Developmental Biology, University of Michigan Medical School, Ann Arbor, MI, 3Department of Mathematics, Arizona State University, Ann Arbor, MI

B725/P3373 Finding a mate: how yeast cells track pheromone gradients. K.C. Jacobs1; 1Duke University, Durham, NC

B726/P3374 Can we induce vasculogenesis by varying biomaterial structure? A case of fibrin gel. A. Shipchika1, P. Konarev1,2, A. Gorkun1,2, S. Koval2,3, N. Aksenova1,2, A. Koroleva1,2, D. Markaryan1, V. Volkov1, T. Zharkova1,2, V. Asadchikov1, P. Timashev1,2,3; 1Institute for Regenerative Medicine, Sechenov University, Moscow, Russia, 2National Research Center ‘Kurchatov Institute’, Moscow, Russia, 3Institute of Crystallography, Federal Research Centre ‘Crystallography and Photonics’ RAS, Moscow, Russia, 4FSBSI Institute of General Pathology and Pathophysiology, Moscow, Russia, 5Department of Polyers and Composites, N.N. Semenov Institute of Chemical Physics, Moscow, Russia, 6Nanotechnology Department, Laser Zentrum Hannover e.V., Hannover, Germany, 7Clinics of Coloproctology and Minimaly Invasive Surgery, Sechenov University, Moscow, Russia, 8Research Institute for Urophrolog and Reproductive Health, Sechenov University, Moscow, Russia, 9Institute of Photonic Technologies, Federal Research Centre ‘Crystallography and Photonics’ RAS, Moscow, Russia

B727/P3375 Cell size control in the unicellular ciliate Stentor coeruleus. T. Makushok1, D.P. Bauer1, N. Kirkland1, W.F. Marshall1; 1Biochemistry and Biophysics, University of California, San Francisco, San Francisco, CA, 2MRC Laboratory of Molecular Cell Biology, University College London, London, United Kingdom

Tuesday Poster Session

B729/P3376 Characterization and Expression Pattern of Two Retinoic Acid Degrading Enzymes During Intestinal Regeneration Of H. glabrata. E. Penguero-Pereira1, M. Alicea-Delgado1, J.E. García-Arrarás1; 1Biology, University of Puerto Rico at Rio Piedras, San Juan, PR

B730/P3377 Intracellular trafficking sets stratified Wingless concentration gradients in Drosophila wing imaginal disc. C. Prabhakara1, T. Saunders1, S. Mayer1; 1National Centre for Biological Sciences, Bangalore, India, 2Mechanobiology Institute, National University of Singapore, Singapore, Singapore, 3Institute of Stem Cell Biology and Regenerative Medicine, Bangalore, India

B731/P3378 Basal suppression of morphogenetic signaling in development and disease. S. Mukhopadhyay1, I. Shimagda1, S. Hwang1, B.N. Somatilaka1, P. Bhalla1, V. Palcharila1; 1Cell Biology, University of Texas Southwestern Medical Center at Dallas, Dallas, TX

B732/P3379 Single-cell RNA sequencing maps the cellular response to cycling estrogen and progesterone in the human endometrium. L.M. Morrow1, R.J. Weber2, J. Caruso2, C.S. McGinnis1, A.D. Borowsky1, T.A. Desai1, M. Thomason1, T. Tlsty1, Z.I. Gartner2; 1Pharmaceutical Chemistry and Center for Cellular Construction, University of California San Francisco, San Francisco, CA, 2Medical Scientist Training Program (MSTP), University of California San Francisco, San Francisco, CA, 3Department of Pathology and Helen Diller Cancer Center, University of California San Francisco, San Francisco, CA, 4Center for Comparative Medicine, University of California Davis, San Francisco, CA, 5Department of Bioengineering and Therapeutic Sciences, University of California San Francisco, San Francisco, CA, 6Computational Biology, Caltech, Pasadena, CA, 7Chan Zuckerberg Biohub, University of California San Francisco, San Francisco, CA

B733/P3380 Progenitors oppositely polarize WNT activators and inhibitors to orchestrate tissue development. I. Matos1, E. Fuchs2; 1The Rockefeller University, New York, NY

B734/P3381 GP17 Is an Essential Component of the Negative Feedback Loop of the Sonic Hedgehog Signalling Pathway in Neural Tube Development. A. Yatsuzuka1, A. Hori-Nishi1, M. Kadoya1, N. Sasa1; 1Bioscience, Nara Institute of Science and Technology, Nara, Japan

B735/P3382 Understanding the Hox regulatory logic during motor neuron differentiation. M. Bulajic1, D. Srivastava1, S. Mahony1, E.O. Mazzoni1,2; 1Biology Department, New York University, New York, NY, 2Center for Eukaryotic Gene Regulation, Department of Biochemistry and Molecular Biology, Penn State University, University Park, PA, 3Neuroscience Institute, New York University, New York, NY

B736/P3383 Core Hippo pathway components act as a brake on Yap/Taz in the developing hepatopancreatic ductal network. Z.J. Brands1, A. Echert1, J. Bostrom1, P. North2, B.A. Link1; 1Cell Biology Neurobiology and Anatomy, New York University, New York, NY
B746/P3393 Tfy1 enhances Notch signaling pathway by modulating gamma-secretase activity. M. Kwon¹, S. Lee¹, K. Yoon¹;
¹Integrative Biotechnology, Sungkyunkwan University, Suwon, South Korea

Tuesday Poster Session

B757/P3404 Actin and microtubule cytoskeletons interplay during oligodendrocyte differentiation. H.S. Domingues¹, H. Wang², B. Rubinstein³, C. Melendez-Vasquez⁴, I. Mendes Pinto²; ²Department of Life Sciences, International Iberian Nanotechnology Laboratory (INL), Braga, Portugal, ³Department of Biological Sciences, Hunter College City University of New York, New York, NY, ⁴Stowers Institute for Medical Research, Kansas City, MO; ³Graduate School of Biomedical Sciences, Hunter College City University of New York (CUNY), New York, NY

B758/P3405 In vivo insights into the proliferation/quiescence/differentiation decision. A.O. Kohnman¹, S. Liu¹, R. Morabito¹, N.J. Palmisano¹, R. Adikes¹, J.J. Smith¹, W. Zhang¹, M. Martinez¹, L.A. Davidson¹, S.L. Spencer², B.L. Martin¹, D.Q. Matus²; ¹Department of Biochemistry and Cell Biology, Stony Brook University, Stony Brook University, NY; ²Computational and Systems Biology, University of Pittsburgh, Pittsburgh, PA, ³Department of Bioengineering, University of Pittsburgh, Pittsburgh, PA, ⁴Department of Biochemistry, University of Colorado-Boulder, Boulder, CO, ⁵BioFrontiers Institute, University of Colorado-Boulder, Boulder, CO

B759/P3406 OVL12 and tissue-specific reprogramming factors cooperatively induce mesenchymal-to-epithelial transition in fibroblasts. K. Watanabe¹, H. Suzuki¹; ¹Center for Integrative Medical Sciences, Riken, Yokohama, Japan

B760/P3407 Bruton’s tyrosine kinase (Btk29A) is essential for the programmed cell death during fly abdomen development. J. Kim¹, K. Cho¹; ¹Life science, Korea Advanced Institute of Science and Technology(KAIST), Daejeon-si, South Korea

B761/P3408 Differentiation of arginyltransferase knockout pluripotent stem cells. K. Minobe¹, S. Kurosaka¹, N.A. Leu², A.U. Ascini¹; ¹Graduate School of Biology-Oriented Science and Technology, Kindai University, ²Graduate School of Biomedical Sciences, Hunter College City University of New York, New York, NY, ³Graduate School of Veterinary Medicine, University of Pennsylvania, Philadelphia, PA

B762/P3409 Trans-differentiation of gastric secretory cells during rat postnatal development: immediate and late effects of early weaning. M.T. Silva¹, K.M. da Silva¹, D. Ogias¹, P. Gama¹; ¹Cell and Developmental Biology, University of Sao Paulo, Sao Paulo, Brazil

B763/P3410 Small molecule directed cardiac differentiation. J. Overton¹, H.K. Kao¹, D. Pretto¹, Y. Sun¹, D.K. Lieu¹; ²Internal Medicine: Cardiology, University of California Davis, Sacramento, CA, ³Institute for Regenerative Cures, University of California Davis, Sacramento, CA, ⁴California State University Sacramento, Sacramento, CA

B764/P3411 Enzyme G inhibits the osteogenic differentiation and promotes the adipogenesis of mesenchymal stem cell. H. Jang¹, J. Choi¹, P. Suh¹; ¹School of Life Sciences, Ulsan National Institute of Science and Technology, Ulsan, South Korea
Stem Cells and Pluripotency 2

B768/P3415 Unleashing high-order plasticity of fibroblasts with down-regulating 3-mercaptoppyruvate sulfurtransferase. E.A. Ostrokhatovich1, S. Akakura1, R. Sanokawa-Akakura1, S. Tabibzadeh1; 1Frontiers in Bioscience Research Institute, Irvine, CA

B769/P3416 Syndecan-2 Surface Expression Identifies Hematopoietic Stem Cells with Increased Repopulating Capacity. C.M. Termini1, M. Li1, J. Kim4, L. Zhao1, J. Chute1; 1Division of Hematology/Oncology, Department of Medicine, University of California, Los Angeles, Los Angeles, CA

B770/P3417 Neural Stem Cell Fate Determination by Small Molecules and Histone Demethylase KDM5A. H. Kim1; 1Pharmacology, Chung-Ang University, Seoul, South Korea

B771/P3418 Identification of transcription factors required to maintain pluripotency by CRISPR-Cas9 screening. G. Garipiler1, C. Lu1, M. Stadtfeld4, N. Sanjana2, E.O. Mazzoni4; 1Department of Biology, New York University, New York, NY, 2New York Genome Center, New York, NY, 3Helén L. Martin S. Kimmel Center for Stem Cell Biology, NYU School of Medicine, New York, NY, 4Neuroscience Institute, New York University, New York, NY

B772/P3419 Delineating the mechanism of CK2.3 mediated osteoblast differentiation, a novel bone formation inducing peptide. V. Vrathasha1, A. Noho1; 1Biological Sciences, University of Delaware, Newark, DE

B773/P3420 The Tetratraspin CD82 regulates Bone Marrow Homing and Engraftment of Hematopoietic Stem and Progenitor Cells. C.A. Saio Reis1, K.D. Marjón1, E.M. Pascetti2, M. Floret1, J.M. Gillette1; 1Pathology, University of New Mexico Health Sciences Center, Albuquerque, NM

B774/P3421 De novo transposon insertions shape the genome of adult intestinal stem cells. M. van den Beek1, K. Siudeja1, A.J. Bardin2,1; 1Institut Curie, Paris, France, 2CNRS, Paris, France

B775/P3422 Bilirubin reversibly affects cell death and odontogenic capacity of SHED. H. Yamaza1; 1Department of Pediatric Dentistry, Kyushu University Graduate School of Dental Science, Fukuoka, Japan

B776/P3423 Preadipocyte Cell Cycle Control: Hypertrophy or Hyperplasia? C.T. Johnson1,2, K.I. Hilgendorf1,2, K. Han3, M.C. Bassik1, P.K. Jackson1,2; 1Microbiology Immunology, Stanford, Stanford, CA, 2Baxter Laboratory for Stem Cell Biology, Stanford, Stanford, CA, 3Genetics, Stanford, Stanford, CA

B777/P3424 Mesenchymal Niche Heterogeneity Drives Regional Tissue Regeneration and Disease Initiation. T. Chen1; 1NIBS, Beijing, Beijing, China

B778/P3425 Human adult neural stem cells in the subventricular zone retain germinal radial-glial identity. S. Baig1, R. Allache1, J. Nadaf3,4, C. Lee1, V.G. Francis1, C. Wang1,2, Q. Cui1, M. Guiot1, J. Antel1, I. Ragoussis1,3, K. Petrecca2; 1Department of Neurology and Neurosurgery, Montreal Neurological Institute and Hospital, McGill University, Montreal, QC, 2Department of Human Genetics, McGill University, Montreal, QC, 3Genome Quebec Innovation Centre, McGill University, Montreal, QC, 4Department of Neuropathology, McGill University, Montreal, QC

B779/P3426 The cell-density effect on the paracrine potential of ex vivo cultured adipose-derived stem cells. G. Park1, Y. Son1, H. Hong2; 1Genetic Engineering, College of Life Science and Graduate School of Biotechnology, Kyung Hee University, Yongin, South Korea, 2Biomedical Science and Technology, Graduate School/East-West Medical Research Institute, Kyung Hee University, Seoul, South Korea

Oogenesis

B780/P3427 C. elegans DYNLL1/2 Ortholog Associates with RNP Complexes to Promote Germline mRNA Regulation. N. Day1, M. Ellenbecker2, E. Voronina1; 1Division of Biological Sciences, University of Montana, Missoula, MT

B781/P3428 Fertility effects of a spontaneous coat color mutation. D.R. Larson1, A.L. Hingtgen2; 1Biology, College of St. Benedict/St. John’s University, Collegeville, MN

B782/P3429 The adaptor protein, Dreadlocks, is essential for normal ring canal expansion and germ cell integrity in the developing egg chamber. K. Stark1, O. Crowe1, L. Lewellyn1; 1Biological Sciences, Butler University, Indianapolis, IN

B783/P3430 Tyramine Induced Smooth Muscle Modulation During Ovulation. S.M. Peck1, B. Obayomi1, S. Henson1, D.P. Baluch1; 1School of Life Sciences, Arizona State University, Tempe, AZ

Fertilization and Germline Stem Cells

B785/P3432 Niche cell wrapping controls survival and basement-membrane regulated proliferation of primordial germ cells. D.C. McIntyre1, J. Nance1; 1Skirball Institute of Biomolecular Medicine, NYU School of Medicine, New York, NY, 2Department of Cell Biology, NYU School of Medicine, New York, NY

B786/P3433 CBD-1 organizes two independent complexes required for eggshell vitelline layer formation and egg activation in C. elegans. D.P. Gonzalez1, H.V. Lambi1, D. Partida1, Z.T. Wilson1, M. Harrison1, J. Prieto1, G. Singh1, S.K. Olson1; 1Biology, Pomona College, Claremont, CA

B787/P3434 Role of PRDM14 in human germline specification. A. Sybirna1,2, W. Tang1,2, A.M. Surani1,3; 1Wellcome Trust/CRUK Gurdon Institute, University of Cambridge, Cambridge, United Kingdom, 2Physiology, Development and Neuroscience Department, University of Cambridge, Cambridge, United Kingdom

B788/P3435 Long-term maintenance of germline stem cells in diapause helps in the resurgence of development upon diapause exit in Drosophila melanogaster. S. Easawaran1, D. Houston2, D.J. Montell2; 1IMCD, University of California, Santa Barbara, CA

B789/P3436 Characterizing the role of the sperm specific proteasomal subunit RPN-6.2 in Caenorhabditis elegans. J.M. Evers1, J. Haynes1, L. Boyd1; 1Biology, Middle Tennessee University Graduate Studies, Murfreesboro, TN

B790/P3437 Identification of a novel epididymal stem cell. L. Pinel1, D.G. Cyr2; 1Laboratory for Reproductive Toxicology, INRS-Institut Armand-Frappier, Laval, QC

B791/P3438 Biphensol A (BPA) alters the stereidogenic activity of perinatal Leydig cells in rabbit. A.P. Ortega García1, P.C. Collazo Saldaña1, A. Castro Domínguez2, J.A. Marmolejo Valencia1, V. Díaz Hernández2, H. Merchant Larios1; 1Institute of Biomedical Research, UNAM, México, Mexico, 2Medicine, UNAM, México, Mexico

B792/P3439 Seasonal variations in Eptesicus furinalis prostate. M. Tosi Comelis Martíns1, L.M. Bueno1, S. Taboga1, R.M. Goes1, E. Morielle Versute1; 1Zoology and Botany, UNESP/BILCE, São José do Rio Preto, Brazil, 2Biology, UNESP/BILCE, São José do Rio Preto, Brazil
Host-Pathogen/Host-Commensal Interactions 2

B794/P3440 Toll-like receptors: a link between dry eye and microbial corneal infection? C. Lema1, R.L. Redfern1; 1College of Optometry, University of Houston, Houston, TX

B795/P3441 Phagocytosis plays a key role in induction of endoplasmic reticulum stress responses in Mycobacterium smegmatis-infected macrophages. S. Cho1, S. Kim2, J. Choi3, J. Lee3, J. Park3, S. Son4, C. Song2; 1Department of Medical Sciences, Department of Microbiology, Chungnam National University College of Medicine, Daejeon, South Korea

B796/P3442 The intracellular pathogen Coxiella burnetii inhibits host endosome maturation and acidification. D. Samanta1, S.D. Glick2; 1Microbiology and Immunology, Indiana University School of Medicine, Indianapolis, IN

B797/P3443 Parophrymonas gingivalis strain WB3 Trafficing in Human Coronary Artery Smooth Muscle Cells. H. Getachew2, W.A. Dunn2,1, A. Progulske-Fox3,1; 1Center for Molecular Microbiology, University of Florida, Gainesville, FL, 2Oral Biology, University of Florida, Gainesville, FL, 3Anatomy and Cell Biology, University of Florida, Gainesville, FL

B798/P3444 Protein Kinase C Activation facilitates Cryptosporidium parvum invasion of intestinal epithelial cells. S.E. McCowin1, G.L. Wojcik2, P. Duggal1,1, R. Haque1, W.A. Petri3, C. Marie1; 1Medicine: Infectious Diseases and International Health, University of Virginia, Charlottesville, VA, 2Biomedical Data Science, Stanford University, Stanford, CA, 3Genetic Epidemiology, Johns Hopkins University, Baltimore, MD, 4Laboratory Science Division and Emerging Vaccines, National Centre for Diarrhoeal Disease, Dhaka, Bangladesh

B799/P3445 Mechanisms underlying Toxoplasma gondii endocytosis of host cytosolic protein. Y. Rivera-Cuevas1, O.L. McGovern1, A.E. Lawrence2, V.B. Carruthers1; 1Microbiology and Immunology, University of Michigan, Ann Arbor, MI

B800/P3446 Transcriptional response of honey bee (Apis mellifera) to differential nutritional stress paradigms. I. Messaoudi1; 1Microbiology and Immunology, The University of California, San Francisco, San Francisco, CA

B801/P3447 Inhibition of mTORC1 by burnetii promotes bacterial replication within endothelial cell barrier function and enteroids to study the intestinal epithelial stage of Salmonella enterica serovar Typhi infection. A.E. Lawrence1, B.H. Aburatba1, R.P. Berger1, D.R. Hill1, S. Huang1, V.K. Yadagiri2, M.K. Dame3, J.R. Spence2,1, V.B. Young1, M.X. O’Riordan1; 1Microbiology and Immunology, University of Michigan, Ann Arbor, MI, 2Internal Medicine, University of Michigan, Ann Arbor, MI, 3Cell and Developmental Biology, University of Michigan, Ann Arbor, MI

B802/P3445 Establishing Xenia as a model organism to study coral regeneration and symbiosis. M. Hu1, X. Zheng2, C. Fan3, Y. Zheng4; 1Embryology, Carnegie Institution of Washington, Baltimore, MD

B803/P3445 Metallothionein genes Cmt1 and Cmt2 contribute to anti-fungal drug resistance by combating oxidative stress in the fungal pathogen Cryptococcus neoformans. N. Dibo1, M. Covington1, S. Chandrasekaran2; 1Biology, Furman University, Greenville, SC

B810/P3456 Super resolution STED microscopy of Zika virus induced endothelial reticulum reorganization. R. Luong1, F. Jeant2, J.R. Nabi2; 1Cellular Physiological Sciences, University of British Columbia, Vancouver, BC, 2Microbiology Immunology, University of British Columbia, Vancouver, BC

B811/P3457 A network of galectins senses phagosomal damage to control bacterial infection in macrophages. S.L. Bell1, K.L. Lopez1, J.S. Cox1, K.L. Patrick1, R.O. Watson1; 1Microbial Pathogenesis and Immunology, Texas AM University Health Science Center, Bryan, TX, 2Molecular and Cell Biology, University of California, Berkeley, Berkeley, CA

B812/P3458 Human brain microvascular endothelial cell gene expression to African trypanosomes under brain capillary and postcapillary venule flow shear stress conditions. D.J. Graber3,4, N.A. Azhar1,4, M.A. Khan1, B.J. Sumpio4, K.G. Becker2, P.C. Starson6, B.E. Sumpio4; 1Pathology, Uniformed Services University, Bethesda, MD, 2Pathology, Johns Hopkins University, Baltimore, MD, 3Centre for Bioinformatics, Perdana University, Selangor, Malaysia, 4Surgery, Yale University School of Medicine, New Haven, CT, 5National Institutes of Aging, National Institutes of Health, Baltimore, MD, 6Institute of NanoBioTechnology, Johns Hopkins University, Baltimore, MD

B813/P3459 Revealing molecular architecture of sporulation in Bacillus subtilis using cryo-electron tomography. K. Khanna1, J.L. Garrido1, Z. Zhao2, Y. Yuan2, K. Pogliano3, E. Villa3; 1Biological Sciences, University of California, San Diego, La Jolla, CA

B814/P3460 Effect of Bacillus subtilis MG-5 on the cecal microbiota of broilers. G.F. Hadieva1, M.T. Lutfullin1, D.S. Pudova1, E.I. Shagimardanova1, A.M. Mardanova2, M.R. Sharipova1; 1Institute of Fundamental Medicine and Biology, Kazan Federal University, Kazan, Russia

B815/P3461 Analysis of the polyproline protein content of Staphylococcus aureus. A. Golubev1, D. Blokhin3, S.Z. Validov1, M.M. Yusupov2, K. Usachev2; 1Laboratory of Structural Biology, Institute of Fundamental Medicine and Biology, Kazan Federal University, Kazan, Russia, 2National Research Center, National Research Center, 3Laboratory of Integrative Structural Biology, Institute of Genetics and Developmental Biology, Institute of Genetics and Developmental Biology

B816/P3462 Elongation factor P: on the journey to a new type of post translational modification. S.Z. Validov1, A. Golubev1, I.S. Khusainov3, K. Usachev2; 1Laboratory of Structural Biology, Institute of Fundamental Medicine and Biology, Kazan Federal University, Kazan, Russia, 2Integrated Structural Biology, IGBMC, Strasbourg, France

B817/P3463 Assessing permeability of dental implant interfaces using microbiological assay. I.R. Khafizov1, A.R. Kayumov2, R.M. Mirkazeev1, F.A. Khafizova1, M.Z. Mirkazeev1, R.G. Khafizov1, A. Rizvanov1, W.A. Petri1, E.I. Mirkazeev1; 1Laboratory of Fundamental Medicine and Biology, Kazan Federal University, Kazan, Russia

B818/P3464 Comparative microbiological assessment of dental implants used according to immediate and delayed load protocols. I.R. Khafizov1, R.M. Mirkazeev1, F.A. Khafizova1, M.Z. Mirkazeev1, R.G. Khafizov1, A. Rizvanov1, W.A. Petri1, E.I. Mirkazeev1; 1Institute of Fundamental Medicine and Biology, Kazan Federal University, Kazan, Russia

B819/P3465 Freezing Time: visualizing cyanobacterial circadian clock complexes with cryo-electron tomography. S. Golden1, V. Lam1, E. Villa2; 1Division of Biology, UC San Diego, La Jolla, CA, 2Center for Circadian Biology, UC San Diego, La Jolla, CA

B820/P3466 Nitrile Metabolism by Bacterial strains Isolated From a Tropical Dumpsite. A.K. Ogunyemi1, A.T. Samuel1, M.O. Ilori1, O.O. Amund1; 1Microbiology, University of Lagos, Lagos, Nigeria

B821/P3467 Programmability of cell-size
**B829/P3474 Influence of haloperidol on the rats cardiomyocytes contractility.** A.M. Kuptsova1, N.I. Ziyatdinova1, T.L. Zefirova1, A. Rizvanov1, T.P. Zefirova1; 1Institute of Fundamental Medicine and Biology, Kazan Federal University, Kazan, Russia, 2Department of Normal Physiology, Kazan State Medical Academy, Kazan, Russia

**B830/P3475 NPY regulates electrical activity rats atrial cells.** A.A. Zverev1, T.A. Anikina1, A. Rizvanov1, N.G. Iskakov1, T.P. Zefirova1; 1Institute of Fundamental Medicine and Biology, Kazan Federal University, Kazan, Russia

**B831/P3476 Developmental changes of NPY1-receptor rats myocardial cells contractility regulation.** N.G. Iskakov1, A.A. Zverev1, T.A. Anikina1, A. Rizvanov1, T.P. Zefirova1; 1Institute of Fundamental Medicine and Biology, Kazan Federal University, Kazan, Russia

**B832/P3477 Neonatal rat’s heart sells α2-AR stimulation (isolated heart model).** A.M. Kuptsova1, N.I. Ziyatdinova1, T.P. Zefirova1, A. Rizvanov1, T.L. Zefirova1; 1Institute of Fundamental Medicine and Biology, Kazan Federal University, Kazan, Russia

**B833/P3478 Ror2 regulates adipogenic differentiation of mesenchymal progenitor cells in the skeletal muscle.** K. Kamiyama1, A. Yamamoto1, R. Doi1, M. Kanagawa2, T. Toda1, A. Uezumi1, S. Fukuda1, M. Endo1, Y. Minami1; 1Division of Cell Physiology, Department of Physiology and Cell Biology, Graduate School of Medicine, Kobe University, Kobe, Japan, 2Division of Neurology/Neuroscience, Graduate School of Medicine, Kobe University, Kobe, Japan, 3Laboratory of Molecular and Cellular Physiology, Graduate School of Pharmaceutical Sciences, Osaka University, Osaka, Japan

**Muscle Structure, Function, and Disease**

**B828/P3473 Dose-dependent effect of methoxamine on rats cardiomyocytes contractility.** A.M. Kuptsova1, N.I. Ziyatdinova1, T.L. Zefirova1, A. Rizvanov1, T.P. Zefirova1; 1Institute of Fundamental Medicine and Biology, Kazan Federal University, Kazan, Russia, 2Department of Normal Physiology, Kazan State Medical Academy, Kazan, Russia

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**Homeostasis in bacteria.** F. Shi1, G. Le Treut1, S. Vadia1, P.A. Levin1, S. Jun1; 1Department of Physics, University of California, San Diego, La Jolla, CA, 2Department of Biology, Washington University in St. Louis, St. Louis, MO

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**2018 ASCB | EMBO Meeting**

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**Tuesday Poster Session**

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**B834/P3479 Detecting protease activity of muscle specific calpain-3 (CAPN3) in living cells.** K. Ojima1, S. Hata2, F. Shinkai-Ouchi2, M. Oe1, S. Muroya1, H. Sorimachi2, Y. Ono2; 1Muscle Biology Research Unit, Division of Animal Products Research, Institute of Livestock and Grassland Science, NARO, Tsukuba, Japan, 2Calpain Project, Tokyo Metropolitan Institute of Medical Science (IGAKUKEN), Tokyo, Japan

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**B908/P3484 Investigating the role of Myh14 in beta-adrenergic stimulation induced left ventricular mass hypertrophy.** S. Chang1, S. Ren1, K. Omi1, Y. Wang1, A. Lusis1, J.J. Wang1; 1Medicine-Cardiology, University of California, Los Angeles, Los Angeles, CA
B841/P3486 Ginsenoside Rg1 augments oxidative metabolism and anabolic response of skeletal muscle in mice. H. So¹, H. Jeong¹, A. Jo², H. Kim¹, S. Lee³, G. Bae⁴, J. Kang⁴; ¹Department of Molecular Cell Biology, Samsung medical center, Single Cell Network Research Center, Sungkyunkwan University School of Medicine, Suwon, South Korea, ²Research Center for Cell Fate Control, Research Institute of Pharmaceutical Science, College of Pharmacy, Sookmyung Women’s University, Seoul, South Korea

B842/P3487 Clindamycin suppress nonsense mutations in mouse model of Duchenne muscular dystrophy. M. Shiozuka¹,², Y. Nonomura³, R. Matsuda¹,²; ¹Center for Clinical and Translational Research, Kyushu University Hospital, Fukuoka, Japan, ²Life Sciences, The University of Tokyo, Tokyo, Japan, ³Mathematics and Science Education, Tokyo University of Science, Tokyo, Japan

B843/P3488 Troponin-T cardiomyopathy mutations depress its inhibitory properties, in vitro, and stimulate myocardial dysfunction, in vivo. A. Madan¹, M.C. Viswanathan¹, S. Vogler¹, K.C. Woulfe¹, B. Trinh², S. Madathil¹, C. Wilson¹, L. Tobacman¹, A.R. Cammarato¹; ¹Medicine, Johns Hopkins University, Baltimore, MD, ²Sanford Burnham Medical Discovery Institute, San Diego, CA, ³Medicine, University of Colorado, Denver, CO, ⁴Medicine, University of Illinois, Chicago, IL

B844/P3489 Tyramine and the Male Mouse Reproductive Tract. J.W. Quinn¹, S. Henson¹, S.M. Peck¹, B. Obayomi¹, D.P. Baluch¹; ¹School of Life Sciences, Arizona State University, Tempe, AZ

B845/P3490 Exosomal miR-21 from oxygen-glucose-deprivation-treated cardiomyocytes plays protective roles against myocardial infarction in rats. S. Leu¹, Y. Hu¹, Y. Chiu¹, L. Chen²; ¹Institute for Translational Research in Biomedicine, Kaohsiung Chang Gung Memorial Hospital, Kaohsiung, Taiwan

B846/P3491 Interaction of the novel WYR domain of flightin with the myosin rod changes its coiled-coil secondary structure. L.M. Menard¹, J.O. Vigoreaux¹, N.B. Wood¹; ¹Biology, University of Vermont, Burlington, VT

B847/P3492 A human cardiomyocyte-based platform for the profiling of positive inotropes with potential to treat heart failure. N. Abi Gerges¹, T. Indersmitten¹, W. Nguyen¹, G. Page¹, N. Nguyen¹, P. Miller¹, A. Ghetti¹; ¹Anabios Corporation, San Diego, CA

B848/P3493 Role of Pannexin 1 Channels in Satellite Cells and in Skeletal Muscle Regeneration. T. Pham¹,², S. Karami³, S. Langlois¹,², B.J. Jasmin²,³, K.N. Cowan¹,²; ¹Molecular Biomedicine Program, Children’s Hospital of Eastern Ontario Research Institute, Ottawa, ON, ²Cellular and Molecular Medicine, University of Ottawa, Ottawa, ON, ³Surgery, Children’s Hospital of Eastern Ontario, Ottawa, ON, ⁴Centre for Neuromuscular Disease, Ottawa, ON

B849/P3494 Improvement of Muscle Atrophy through Mitochondrial Transplantation. M. Kim¹,², J. Lee¹, J. Hwang¹, Y. Choi¹; ¹Department of Biotechnology, CHA University, Seongnam, South Korea, ²PAEAN Biotechnology Inc., Daejeon, South Korea
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Odenwald, Caroline  Employment (full or part-time): PROGEN Biotechnik GmbH
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<td>Disclosure – Institution</td>
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