

**EXPERIMENTAL BIOLOGY 2017  
LATE-BREAKING ABSTRACTS**

**McCormick Place Convention Center, Skyline Ballroom  
Wednesday, April 26**

**Authors Place Posters: 7:00 AM–9:00 AM**

**Poster Viewing: 9:00 AM–4:00 PM**

**Poster Presentation/Defending: listed next to each discipline below**

**Authors Remove Posters: 4:00 PM–6:00 PM**

**(posters not removed by 6:00 PM will be discarded)**

**Anatomy: 9:30 AM–11:00 AM**

Anatomy .....	LB1–LB7
Anatomy Education .....	LB8–LB19
Biological Anthropology .....	LB20–LB21
Bones, Cartilage and Teeth .....	LB22–LB26
Cardiovascular Biology .....	LB27–LB28
Cell Biology .....	LB29–LB31
Development and Growth .....	LB32–LB34
Evolution and Comparative Anatomy .....	LB35–LB36
Imaging .....	LB37
Neurobiology .....	LB38–LB47
Regenerative Medicine, Stem Cells, Wound Healing and Bioengineering .....	LB48–LB49

**Biochemistry and Molecular Biology: 12:00 PM–2:30 PM**

Genome Dynamics: DNA Replication, Repair and Recombination .....	LB50–LB60
Chromatin Structure and Gene Expression .....	LB61–LB70
RNA: Processing, Transport, and Regulatory Mechanisms .....	LB71–LB74
Protein Chemistry, Synthesis and Turnover .....	LB75–LB107
Biomolecular Catalysis .....	LB108–LB112
Chemical Biology, Drug Discovery and Bioanalytical Methods .....	LB113–LB132
Systems Biology Technologies and Applications .....	LB133–LB139
Signal Transduction and Cellular Regulation .....	LB140–LB196
Microbial Systems and Parasitology .....	LB197–LB207
Metabolism and Bioenergetics .....	LB208–LB223
Lipids and Membranes .....	LB224–LB231
Cell and Organelle Dynamics .....	LB232–LB242
Glycans and Glycobiology .....	LB243–LB246
ASBMB Education and Professional Development .....	LB247–LB271

**Nutrition: 9:00 AM–10:00 AM**

ASN Variability in Responses to Diet and Food .....	LB272–LB292
ASN Nutrition on Healthy Growth, Development and Reproduction .....	LB293–LB308
ASN Disease Prevention, Progression and Treatment .....	LB309–LB360
ASN Nutrition-Related Behaviors .....	LB361–LB378
ASN Food Supply and Environment .....	LB379–LB387
ASN Vitamins, Minerals, and Bioactives .....	LB388–LB428
ASN Community, Public Health and Global Nutrition .....	LB429–LB464
ASN Energy and Nutrient Metabolism .....	LB465–LB482

**Pathology: 11:45 AM–1:45 PM**

It's A Dangerous World Out There: Toxic Injury .....	LB483–LB487
Cell and Molecular Therapies .....	LB488–LB495
Mechanisms in Malignancy .....	LB496–LB499
Injury and the Host Response .....	LB500–LB508
On Your Mind: Neurobiology and Neuropathology .....	LB509–LB512
Methodologies in Pathobiological Investigation.....	LB513–LB523

**Pharmacology: 12:30 PM–2:30 PM**

Cancer Pharmacology .....	LB524–LB536
Cardiovascular Pharmacology .....	LB537–LB565
Cellular and Molecular Pharmacology.....	LB566–LB574
Central Nervous System Pharmacology.....	LB575–LB594
Drug Discovery and Development.....	LB595–LB607
Drug Metabolism and Disposition .....	LB608–LB615
Pharmacogenomics and Translational Pharmacology.....	LB616–LB617
Pharmacology Education .....	LB618
Toxicology.....	LB619–LB628
Pharmacology – Other.....	LB629–LB635

**Physiology: 12:30 PM–2:15 PM**

Cardiovascular.....	LB636–LB682
Cell and Molecular Physiology .....	LB683–LB701
Central Nervous System (CNS) .....	LB702–LB709
Comparative and Evolutionary Physiology .....	LB710–LB712
Biomedical Engineering.....	LB713
Endocrinology and Metabolism .....	LB714–LB732
Environmental and Exercise Physiology .....	LB733–LB750
Epithelial Transport.....	LB751–LB752
Gastrointestinal and Liver Physiology .....	LB753–LB757
History of Physiology .....	LB758
Hypoxia .....	LB759
Microcirculation.....	LB760–LB765
Muscle Biology .....	LB766–LB789
Neural Control and Autonomic Regulation.....	LB790–LB805
Nutrition Physiology .....	LB806–LB813
Physiological Genomics.....	LB814
Renal Physiology .....	LB815–LB825
Respiration .....	LB826–LB840
Sex Differences in Physiology.....	LB841–LB847
Teaching of Physiology.....	LB848–LB851
Translational Physiology.....	LB852–LB853
Water and Electrolyte Homeostasis.....	LB854–LB860

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## Anatomy

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### Anatomy

**LB1** Microscopic Topography of Atrioventricular Conduction System—A Feature of Potential Clinical Significance. **D. Sahni, A. Randhawa, T. Gupta, A. Aggarwal.** Postgraduate Institute of Medical Education and Research, India.

**LB2** Immunohistochemical Assessment of Hassall's Corpuscles in Human Foetal Thymuses. **S.S. Sahni, R. Gupta, T. Gupta, A. Aggarwal.** Dayanand Medical College, India, Adesh Medical College and Hospital, India, and Postgraduate Institute of Medical Education and Research, India.

**LB3** Ischemic Colitis May Be a Diagnostic Sign for the Presence of Aortic Abdominal Aneurysm (AAA). **B. Hinsley, S. Gowan, B. Casey, L. Urita, A. Molnar, N. Reeves, G. Nagy, L. Sandy.** Ross University School of Medicine, Dominica.

**LB4** Correlation Between Obesity and Flat Feet Among School Age Children. **M.A. Bardales-Cahua, C.B. Bardales-Vásquez, C.A. León-Torres.** Antenor Orrego Private University, Peru and National University of Trujillo, Peru.

**LB5** The Role of Aminoguanidine on the Epididymis of Diabetic Rats: A Histological Study. **M.A. Othman.** College of Medicine, Arabian Gulf University, Bahrain, and Assiut University, Egypt.

**LB6** Complete Bilateral Ureteral Duplication: An Incidental Finding in Cadaveric Dissection. **M. Syed, N. Akhter, K.D. Phelan, E. Eltahawy.** University of Arkansas For Medical Sciences.

**LB7** Incidental Discovery of Supernumerary Breast Tissue in Dissection Course: Case Report and Review of Literature. **A.O. da Rocha, J. Bonatto-Costa, J. Pedron, D. De Campos, G.R. Tomaz, M.A. Bodi, G.S. Pacini.** Federal University of Health Sciences of Porto Alegre (UFCSA), Brazil.

### Anatomy Education

**LB8** 3D Virtual Anatomic Models of Ventricle and Brainstem from Computed Tomography Arteriograms. **S.A. Palmer, A.D. Smith, J.C. Lynch, D. Cui.** University of Mississippi Medical Center.

**LB9** Virtual Dissection: Using Active Learning with the Anatomage Table to Enhance Student Learning. **M. Gross, C. Masters.** University of Michigan.

**LB10** Three Dimensional (3D) Virtual Human Cadaver, Anatomage: An Effective Teaching Tool for Human Anatomy. **R. Narnaware.** MacEwan University, Canada.

**LB11** Teaching Radiology/anatomy to Medical Students: Using Multiple Approaches to Understand 2D/3D Structure of the Heart. **S. Zill.** Joan C. Edwards School of Medicine.

**LB12** The Human Anatomy Laboratory Companion: A Teaching Tool Created by Students, for Students. **V.N. Forster, L. Jadeski.** University of Guelph, Canada.

**LB13** Online Learning Modules Based on Spacing and Testing Effects Improve Medical Student Performance on Anatomy Examinations. **D. Baatar, E. Ricks, T. Gest.** Texas Tech University Health Sciences Center El Paso, Paul L. Foster School of Medicine, Texas Tech University Health Science Center El Paso and Paul L. Foster School of Medicine.

**LB14** Application of Unknowns in Organismal Biology Laboratories to Encourage Inquiry-Based Learning. **M. Guenther, K. Bennett, P. Arriola.** Elmhurst College.

**LB15** Using 3D Paper Model Constructions and Wikki Stix™ to Teach the Intricacies of the Pterygopalatine Fossa. **A. Hatcher, G. Naze, M. Hazzard, B. MacPherson.** University of Kentucky.

**LB16** Anatomy Students: The Difference Between Their Opinions and Their Practice in Studying Anatomy. **K.A.I. Sunba, S.E. Van Nuland, K.A. Rogers.** University of Western Ontario, Canada.

**LB17** Educational Outcomes of Implementing Prosections as Educational Tools in the Medical Gross Anatomy Laboratory. **S.R. Williams, K. Thompson, A. Sinning.** The University of Mississippi Medical Center and Millsaps College.

**LB18** Three Dimensional Educational Module of the Anatomical Human Brainstem Including Vascular Territories. **A.H-S. Nguyen, K. Hisley, D. Eliot.** Touro University—California.

**LB19** Undergraduate Research Projects at the Community Colleges. **B.A. Hess, A.A. Fortner, S.A. Chowdhury.** Saint Louis Community College Wildwood and St. Louis Community College Wildwood.

### Biological Anthropology

**LB20** Looking Beyond Phalangeal Length and Curvature: Functional Correlation Between Manual Phalangeal Articular and Collateral Ligamentous Morphology and Anthropoid Locomotor Adaptations. **A.S. Deane, M. Tocheri, K. Wiles.** Indiana University School of Medicine, Lakehead University, Canada and University of Kentucky.

**LB21** Interlimb Coordination During Climbing by Primates: A Test of the Vilensky Hypothesis. **M.C. Granatosky, D. Schmitt, J.B. Hanna.** University of Chicago, Duke University and West Virginia School of Osteopathic Medicine.

### Bones, Cartilage and Teeth

**LB22** Reliability and Validity of Accelerometry Methods Used to Assess Facet Joint Crepitus and Cavitation. **G.D. Cramer, M. Budavich, P. Bora, T. Koo, D. Madigan, A. Braden, K. Ross.** National University of Health Sciences, Boston Scientific, New York Chiropractic College and Canadian Memorial Chiropractic College, Canada.

**LB23** Evidence for Muscle Pump Enhancement of Capillary Filtration as a Redundant Mechanism for Bone Fluid Flow. **H. Winet**. University of California at Los Angeles.

**LB24** Localization of the Platelet-Activating Factor Receptor on the Intact Human Periodontal Ligament. **D. Cerutis, M.G. Nichols, S.A. Khan, T. Miyamoto**. Creighton University.

**LB25** *In Vivo* Visualization of Cortical Porosity Development in an Animal Model of Progressive Chronic Kidney Disease. **D.T. Buening, M. Allen, E. McNerny**. Alma College and Indiana University School of Medicine.

**LB26** Rare Bony Tunnel and the Middle Meningeal Artery. **J.A. Bonatto-Costa, D. De Campos, S. Toillier, L.F. da SilvaFurtado, A.O. Rocha, T. Malysz**. Universidade Federal de Ciências da Saúde de Porto Alegre, Brazil, Universidade do Vale do Rio dos Sinos, Brazil, Universidade de Santa Cruz do Sul, Brazil, and Universidade Federal do Rio Grande do Sul, Brazil.

### Cardiovascular Biology

**LB27** HDAC1 Depletion in Human Cardiac Mesenchymal Stromal Cells Facilitates Paracrine-Mediated Endothelial Cell Growth and Tube Formation Through a Mechanism Involving Enhanced bFGF Production and Secretion. **D. Hagan, J. Zhao, S. Shokeen, R. Bolli, K. Solanki, J.B. Moore IV**. University of Louisville.

**LB28** Microvascular Corrosion Casting of the Ovary in Non-Pregnant and Pregnant Does. **S. Hafez, T. Caceci**. Virginia Tech Carilion School of Medicine and Research Institute and Virginia Polytechnic Institute and State University.

### Cell Biology

**LB29** EGCG, an Active Ingredient in Green Tea, Modulates Cell Proliferation in Human Pancreatic Cancer Cells and Rat Osteosarcoma Cells *in Vitro*. **N.H. Lai, J.K. Bautista, A. Rodriguez, S. Bolivar, E.E. Joseph**. La Sierra University.

**LB30** Antiangiogenic Agent Nintedanib (BIBF 1120) Effectiveness *in Vitro* and *in Vivo* Against Prostate Cancer. **R F. da Silva, K. Raina, D. Kumar, D. Dhar, V.H A. Cagnon, C. Agarwal, R. Agarwal**. University of Campinas, Brazil and University of Colorado at Denver.

**LB31** Hepatotoxicity of Monoglutamate Sodium: Oxidative Stress and Histopathological Study. **M. Elshafey, M.A. Eladl, M. El-Sherbiny, H. Atef, D.A. El Morsi**. Mansoura University, Faculty of Medicine, Egypt, University of Sharjah, College of Medicine, United Arab Emirates, and Almaarefa College of Medicine, Saudi Arabia.

### Development and Growth

**LB32** Determining Toxic Levels in Pre-Implantation Mouse Embryo Development from Exposure to Electronic Nicotine Delivery System (e-Cig) Carrier Fluid. **D.M. Hamm, M.A. Pietrangelo, R.J. Swanson**. Liberty University College of Osteopathic Medicine.

**LB33** Fetal Alcohol Syndrome Effects in Retinal Cell Gene Expression and Development. **J.A. Rodriguez, P.A. Muralidharan, J.A. Marrs**. Indiana University Purdue University Indianapolis.

**LB34** GDF5 Is a Direct Target of LMX1B Regulation During Limb Dorsalization. **C.U. Pira, E. Haro, L.M. Pernu, C.M. Casiano, E.J. Kim, C.A. Aka, K.C. Oberg**. Loma Linda University and Walla Walla University.

### Evolution and Comparative Anatomy

**LB35** Large Hadrosaurid Dinosaur from the San Juan Basin, New Mexico. **N. Carrillo, A. VanZant, M. Guenther**. Elmhurst College.

**LB36** Phenotypic Response in the Mouse Tail Musculoskeletal System Associated with Differences in Tail Use and Mechanical Loading Milieus. **J. Organ, A. Luger, L. Chavez, A. Stachel, D. Adriaens**. Indiana University School of Medicine and Ghent University, Belgium.

### Imaging

**LB37** Harvest and Imaging of Pleural Mesothelium *en Face*. **C.D. Valenzuela, A.B. Servais, A. Kienzle, A.B. Ysasi, W.L. Wagner, M. Ackermann, A. Tsuda, S.J. Mentzer**. Harvard Medical School/Brigham and Women's Hospital, University Medical Center of the Johannes Gutenberg University, Germany, and Harvard School of Public Health.

### Neurobiology

**LB38** Epigenetic Modifications Following NLRP3 Induced Inflammation of Oligodendrocyte Precursor Cells. **R.E. McKinley, A. Csoka**. Howard University College of Medicine.

**LB39** TGF-Beta Signalling and Development of Mouse Midbrain Dopaminergic Neurons and Hindbrain Serotonergic Neurons. **E. Roussa, E. Chleilat, K. Krieglstein**. University of Freiburg, Germany.

**LB40** Effects of Physical Exercise on Adult Hippocampal Neurogenesis: Changes in DNA Methylation and a Focus on Smad2 Gene. **J. Trejo, A. Herrera, Á. Fontán-Lozano, S. Pons, S. Gradari**. Cajal Institute–Consejo Superior de Investigaciones Científicas (CSIC), Spain, Molecular Biology Institute–CSIC, Spain, and Facultad de Biología–University of Seville, Spain.

**LB41** Gastrocnemius and Tibialis Anterior Neuromuscular Activity Alterations in Adults with Control Type Two Diabetes Mellitus During Standing Postural Tasks. **M.G. Rosario, D.C. Dunbar, A. Ortiz.** Texas Woman's University and University of Puerto Rico Medical Sciences Campus.

**LB42** Benefits of Combinatorial Therapies for Improving Functional Recovery in a Rat Model of Facial Nerve Injury. **E.M. Runge, D. Martinez, S. Drejet, B. Brown, T. Asante, H. Welch, C.L. Walker, A. Best, J. Muldoon, K.J. Jones.** Indiana University School of Medicine and Richard L Roudebush Veterans Affairs Medical Center.

**LB43** Developmental Innervation of Rat Palatine Glands. **Z. Hakami, S. Wakisaka.** University of Connecticut Health Center, Jazan University, Saudi Arabia, and Osaka University, Japan.

**LB44** Morphologic Analysis of Spinal Cord Ischemia-Reperfusion Injury Caused by Aortic Cross Clamping in a Rat Model. **D. Bobinac, T. Celic, I. Vukelic.** Faculty of Medicine, University of Rijeka, Croatia.

**LB45** Cortactin Controls Morphological and Electrophysiological Properties During Activity-Dependent Synaptic Plasticity at the *Drosophila* Neuromuscular Junction. **M. Perez, C. Dominicci, C. Maldonado, B. Marie.** Institute of Neurobiology and Department of Anatomy and Neurobiology.

**LB46** Developmental Localization of the Kv1.3 Voltage-Gated Potassium Channel and Insulin Receptor in Hypothalamic Nuclei Governing Energy Homeostasis. **M.A. Doczi, W. Yacawych.** Norwich University.

**LB47** Does the Copulatory Plug Cause Pseudopregnancy in Female Mice? **M.J. Lough-Stevens, M.D. Dean.** University of Southern California.

### **Regenerative Medicine, Stem Cells, Wound Healing and Bioengineering**

**LB48** Spontaneous Differentiation and Organotypic Tissue Formation in 2D and 3D Cultures of Bovine Mammary Ductal Stem-Like Cells Isolated Directly from Fresh Milk Samples. **T. Lyden, S. Kehoe, E. Plautz, M. Archambault.** University of Wisconsin–River Falls.

**LB49** Long-Term Development and Culture of Artificial Breast Tumor Tissue Using Natural De-Cellularized EC Scaffold Materials and the Adenocarcinoma Cell Line MCF-7. **T. Lyden, S. Topel, H. Thueson.** University of Wisconsin–River Falls.

## **Biochemistry and Molecular Biology**

### **Genome Dynamics: DNA Replication, Repair and Recombination**

**LB50** *De Novo* Thymidylate Biosynthesis and DUTPase Interact in DNA Synthesis. **J. Chon, J.C. Gondokusumo, M.S. Field, P.J. Stover.** Cornell University.

**LB51** Lysine Acetylation of Nuclear Pif1 Regulates Its Helicase Function. **O.E. Ononye, C.W. Sausen, M.W. Bochman, L. Balakrishnan.** Indiana University-Purdue University Indianapolis and Indiana University.

**LB52** Chemical Cross-Linking of Doxorubicin to Synthetic Oligonucleotides by Formaldehyde. **J. Medina, A. Nagesetti, A.J. McGoron, F. Leng.** Florida International University.

**LB53** Base Unpairing at the Flap Junction Controls the Rate of FEN1-Catalyzed Cleavage of DNA During Replication and Repair. **B. Song, M.M. Hingorani.** Wesleyan University.

**LB54** Has the Duration and Temperature of Lysis Buffer Been Minimized for the Comet Assay? **A.A. Alohal, Y. Ji, M.S. Cooke, M. Karbaschi.** Florida International University.

**LB55** Outer Membrane Vesicles from Clinical Strains of *Escherichia coli* Can Cause Megalocytosis and DNA Damage in HeLa Cells. **Y. Morales-Lozada, R. Gómez-Moreno, A. Baerga-Ortiz.** University of Puerto Rico, Rio Piedras Campus, University of Puerto Rico and Medical Science Campus.

**LB56** Regulation of the Functional Properties of Xeroderma Pigmentosum Complement Group A (XPA) Protein Through Lysine Acetylation. **C. Njeri, J. Kaur, J. Turchi, L. Balakrishnan.** Indiana University-Purdue University Indianapolis and Indiana University School of Medicine.

**LB57** A SUMO-Ubiquitin Mediated Proteasome Pathway in Repair of DNA Damage Induced by Topoisomerase II Inhibitors. **Y. Sun.** University of Illinois at Chicago.

**LB58** NHEJ and BER Concurrently Repair Oxidative DNA Damage via Initiation of APE1 in Rat Cortical Neurons. **J.-L. Yang, Y.-P. Chen, S.-F. Sun, S.-D. Chen.** Kaohsiung Chang Gung Memorial Hospital, Taiwan.

**LB59** A Humanized Single Chain Fragment Variable Constructed to Use in Breast Cancer Immunotherapy. **E.O. Mahgoub.** Qatar University, Qatar.

**LB60** Cross-Tissue Telomere Length Measurement to Determine Auxiliary Marker of Brain Telomere Length in Neurosurgery Patients. **S. Lussier, P. Braun, J. Potash, G. Shinozaki, H. Stevens.** University of Iowa.

**Chromatin Structure and Gene Expression**

**LB61** Hyperinsulinemia Induced Changes in Chromatin Acetylation and Gene Expression in Triple Negative Breast Cancer. **P. Senapati, D.K. Ann, V. Seewaldt, D.E. Schones.** Beckman Research Institute at City of Hope.

**LB62** Identification of Misregulated Histone Post Translational Modifications in Melanoma. **L.E. Davis, S.D. Byrum, S.G. Mackintosh, S. Shalin, A.J. Tackett.** University of Arkansas for Medical Sciences.

**LB63** Role of Acyl-CoA Short Chain Synthetase 2 and Acetyl-CoA in Regulation of Chromatin Modifications and Gene Expression. **A.J. Lindahl, J.R. Moffett, J.K.S. Krishnan, A. Appu, N.V. Puthillathu, K. Krautkramer, J.A. Dowell, A.M.A. Namboodiri, J.M. Denu.** University of Wisconsin–Madison and Uniformed Services University of the Health Sciences.

**LB64** Investigating the Role of Arginine Methylation on Serine Phosphorylation in Histone H3. **A.P. Mendiola, D. Fuentes, M. Mendoza, C. Zurita-Lopez.** California State University at Los Angeles and University of Pennsylvania.

**LB65** The Roles of Flanking DNA and Transcriptional Activators in Regulating SAGA-Mediated Nucleosome Acetylation. **S.J. Olson, C. Mittal, M.A. Shogren-Knaak.** Iowa State University and Pennsylvania State University.

**LB66** Expression and Activity of the BioH Esterase of Biotin Synthesis Is Independent of Genome Context. **X. Cao, L. Zhu, Z. Hu, J. Cronan.** University of Illinois at Urbana-Champaign and University of Illinois.

**LB67** Mitronic tsmiR miR6855 Biosynthesis Regulation by Oxidative Stress in the Basal-Like Breast Cancer Cells. **M. Ellison, S. Misra, G. Chaudhuri.** Meharry Medical College.

**LB68** Allostery in Nuclear Hormone Receptor Transactivation. **E.J. Fernandez.** University of Tennessee.

**LB69** Intron 5 of RUNX1 Gene Harbors a Putative Promoter Region. **S. Gutierrez, M. Hinojosa, N. Schnake, M. Martinez.** Universidad de Concepcion, Chile.

**LB70** Characterization of Gene Expression of the *E. coli abg* Region, Which Encodes Proteins Involved in Folic Acid Catabolism. **N. Patel, L. Pitstick, J. Green.** Midwestern University.

**RNA: Processing, Transport, and Regulatory Mechanisms**

**LB71** Investigating the Role of the DYW Deaminase in RNA Processing. **J.A. Aldana-Mendoza, M.L. Hayes.** California State University at Los Angeles.

**LB72** MicroRNA Profile of Excised Cutaneous Squamous Cell Carcinoma Tissues Comparative to Adjacent Normal Tissue. **C.S. Pulford, E.M. Loomis, M.R. Montgomery, C.K. Uppalapati, A.S. Pascual, E.E. Hull, K.J. Leyva.** Midwestern University.

**LB73** Micro-RNA 203 Regulates Myometrial Smooth Muscle Cell Expression of the Transient Receptor Vanilloid 4 Channel. **L. Ying, E.A. Barnes, S. Rodriguez, C.M. Alvira, D.N. Cornfield.** Stanford University.

**LB74** Reversibly Constraining the Human U1 snRNP and the Spliceosome to a Pre-mRNA via an Engineered Site-Specific Disulfide Bond. **P. McCarthy, E. Garside, A. MacMillan, D. Pomeranz Krummel.** Brandeis University, University of Alberta, Canada, and Emory University.

**Protein Chemistry, Synthesis and Turnover**

**LB75** Evidence for Direct Interactions Between RNA Polymerase and Ribosomes. **G.M. Blaha, H. Fan, A.B. Conn, S. Diggs, J. Hahm, P.B. Williams, Y. Wang.** University of California at Riverside.

**LB76** Purification and Subsequent Binding Assay of B-Cell Activating Factor's Receptor (BAFF-R) to an Oligonucleotide Aptamer (BAFF-R1). **C.F. Inman.** Sonoma State University.

**LB77** Discovery of a Cell-Penetrating Peptide via Heparin-Binding from *Pereskia bleo*. **S. Loo, A. Kam, J.P. Tam.** Nanyang Technological University, Singapore.

**LB78** Studies on the Interaction of Human Phospholipid Scramblase 1 with C-Terminal Domain of Topoisomerase II $\alpha$ . **U. Sivagnanam, S.N. Gummadi.** Indian Institute of Technology–Madras, India.

**LB79** Effect of Glycosylation of Cyclooxygenase-2 (COX-2) on Homodimerization. **D.D C. Vann-Victorino, J. Cunanan, M. Chen, R. Chan, R.W. Hall, M.B. Sevigny.** Dominican University of California and Touro University.

**LB80** Altering Oligomerization of EphA2 via Mutations in the Intracellular Domain. **R.W. Lingerak, X. Shi, D.M. Bowman, V.M. Hapiak, J. Zheng, M. Buck, B. Wang, A. Smith.** The University of Akron, Case Western Reserve University/Rammelkamp Center of Metrohealth Medical Center and Case Western Reserve University.

**LB81** Dihydroxyacetone Phosphate (DHAP) Induced Type-I Collagen Glycation and the Formation of Cross-Linked Advanced Glycation End-Products (AGEs) in Vitro. **W. Liu, G.W. Dombi, J.A. Dain.** University of Rhode Island.

**LB82** Human Peptidylarginine Deiminase Types 2 and 4 Target Glycine-Containing Motifs for Citrullination: An in Silico Study. **J.S. Olson, D. Meyer, J. Grant.** University of Wisconsin–Stout.

**LB83** ngPalmPISC: A Sensitive Method for Proteome-Wide Characterization of S-Acylation. **B. Zhou, Y. Yan, M.R. Freeman, W. Yang.** Cedars-Sinai Medical Center.

**LB84** Assessing Cysteine Residue Thiol Status in t-Darpp, a Protein Involved in Chemoresistance. **J.A. Aldana-Mendoza, P. Farias, J.A. Momand.** California State University at Los Angeles.

- LB85** Activation and Binding Mechanisms of the Tandem Collagen-Binding Domain of ColG Collagenase. **R. Bauer, K. Janowska, K. Tanaka, O. Matsushita, J. Sakon.** University of Arkansas, Nippi Research Inc., Japan, and Okayama University, Japan.
- LB86** Nuclear Transport of Fungal Transcription Factors Mediated by Importin- $\alpha$  and Specificities of This Interaction. **N.E. Bernardes, D. Litvac, M.C. Bertolini, N. Panté, M.R. de Matos Fontes.** São Paulo State University, Brazil, and University of British Columbia, Canada.
- LB87** The Folding Mechanism of an Artificial Knotted Protein Characterized by Optical Tweezers. **A. Bustamante, M. Rivera, J. Molina, M. Baez.** Facultad de Ciencias Químicas y Farmacéuticas, Universidad de Chile, Chile.
- LB88** Implications of Neuroglobin Structure and Function in Human Brain Degenerative Disorders. **J.L. Demski, R. Beekman, K. Elcey, B. Guenzel, J. Hollander, A. Jodarski, M. Johnson, D. Moore.** Laconia High School.
- LB89** Initial Crystallography of a Phage DNA Kinase. **A. Gnann, P. Weigele, D. Dowling.** University of Massachusetts Boston and New England Biolabs.
- LB90** Characterization of a Putative Monooxygenase Involved in Climate Regulation from *Hyphomicrobium sulfonivorans*. **J.M. Gordon, M.B. Culpepper, M.A. Culpepper.** Appalachian State University.
- LB91** Diversity and Evolutionary Analysis of Iron-Containing (Type-III) Alcohol Dehydrogenases in the Three Domains of Life. **A. Julián-Sánchez, C. Gaona-López, H. Riveros-Rosas.** Fac. Medicina, Universidad Nacional Autónoma de México, Mexico, and Colegio Benedictino, Mexico.
- LB92** NMR Mapping of the Allosteric Network in the Oncogenic Protein Kinase A Chimera Dnajb1-PRKACA. **A.N. Karamafrooz, G.N. Li, S.M. Simon, S.S. Taylor, G.N. Veglia.** University of Minnesota, Rockefeller University, and University of California at San Diego.
- LB93** Mechanical Untying of the Smallest Knotted Protein from Different Pulling Axis Using Optical Tweezers. **M. Rivera, A. Bustamante, Y. Hao, R.A. Maillard, M. Baez.** Universidad de Chile, Chile, and Georgetown University.
- LB94** Bio-Incorporation of Amino Acid Analogs into Target Proteins. **E.E. Rush.** Tennessee Technological University.
- LB95** Multi-Domain Dynamic Studies of Calcium Bound Polycystic Kidney Disease-Like and Collagen Binding Domains. **C.E. Ruth, J. Sakon.** University of Arkansas.
- LB96** Investigating the Catalytic Molecular Details of Malonyl-Thioester Decarboxylating Enzymes. **L.M. Stunkard, J.M. Lohman.** Purdue University.
- LB97** The Structure and Function of VE-Cadherin in Endothelial Cells. **A.L. Wary, S. Sreedhar.** York Community High School.
- LB98** An Integrated Approach to Investigate Toxic Oligomers of Amyloidogenic Proteins and Potential Inhibitors: Application to the Effects of Humanin on A $\beta$  Oligomers. **M. Gobbi, M. Romeo, M. Stravalaci, M. Beeg, A. Cagnotto, F. Fiordaliso, M. Salmona, L. Diomede.** Istituto di Ricovero e Cura a Carattere Scientifico (IRCCS) Istituto di Ricerche Farmacologiche Mario Negri, Italy.
- LB99** Insight into Parkinson's Disease from Yeasts: Evidence for Sumoylation as a Protective Factor Against Alpha-Synuclein Toxicity. **P. Jones, R. Thomas, Y. Ganey, A. Roman, M. Marshall, G. Lipkin, E. Ong, S. DebBurman.** Lake Forest College.
- LB100** Understanding the Nature of Toxicity of Parkinson's Disease Associated Alpha-Synuclein Familial Mutants H50Q, G51D, and A53E with Yeast Models. **E.N. Ong, M. Tembo, C. Mwale, M. Marshall, C. Alvarado, M. Buabeng, N. Kukulka, S. DebBurman.** Lake Forest College.
- LB101** FTDP-17 Mutants S320F and S352L Have Subtle Differential Effects on 4R Tau Isoform Aggregation *in Vitro*. **M. Yenjerla, C.T. Gamblin.** University of Kansas.
- LB102** Identification of an *Arabidopsis* WD-Repeat Protein That Activates the Deubiquitinase UBP3 and Interacts with Two E3 Ubiquitin Ligases. **A.T. Baskerville, J. Donahue, G. Gillaspay, L. Erickson.** Salisbury University and Virginia Polytechnic Institute and State University.
- LB103** Rotavirus NSP1 as a Phosphorylated Substrate Adaptor of Hijacked Cullin-RING Ligases. **K.A. Davis, M. Morelli, J.T. Patton.** University of Maryland and National Institutes of Health.
- LB104** Modification of CUL3 by Related to Ubiquitin (RUB) Is Partially Regulated by the Phytochrome B Pathway in *Arabidopsis thaliana*. **A. Orellana, M. Christians.** Grand Valley State University.
- LB105** Redundancy Between Proteasome Chaperones Nas2 and Hsm3 During Proteasome Assembly. **A. Suppahia, R.S. Chingakham, A. 'De La Mota Peynado, J. Roelofs.** Kansas State University.
- LB106** Proprotein Convertase Selectivity in the Activation of the Human Papilloma Virus. **G. Izaguirre.** University of Illinois at Chicago.
- LB107** Characterizing Small Molecule Inhibitors of the LINE1 Endonuclease. **M. Smith, S. Bertrand, Q. Bolden, B. Russell, C. DeFreece.** Xavier University of Louisiana.

**Biomolecular Catalysis**

**LB108** Molecular Mechanism of the Functions and Allosteric Regulations of the  $\alpha\beta$  and  $\alpha\gamma$  Heterodimers of Human NAD-Dependent Isocitrate Dehydrogenase. **J. Ding, T. Ma, Y. Liu, Y. Peng, W. Huang.** Shanghai Institute of Biochemistry and Cell Biology, People's Republic of China, and School of Life Sciences, Shanghai University, People's Republic of China.

**LB109** *Streptomyces wadayamensis* MppP: A Novel PLP-Dependent L-Arginine Hydroxylase in L-Enduracididine Biosynthesis. **L. Han, N. Silvaggi.** University of Wisconsin–Milwaukee.

**LB110** Elucidating the Molecular Details of Catalysis for Type III Polyketide Synthases Using Near Natural Substrate/intermediate Analogs. **L.R. Richards, L. Stunkard, A. Benjamin, B.P. Manning, J. Lohman.** Purdue University.

**LB111** The Effect of Substrate Presentation and Activation on Neuraminidase NEU2 Specificity. **R.J. Woods, O.C. Grant, S. Makeneni, B.L. Foley.** University of Georgia.

**LB112** Preliminary Investigation by NMR of the Electron Transfer Complex Between the Vitamin D Metabolizing Cytochrome P450 24A1 and Adrenodoxin. **D. Estrada, Y. Tu.** University at Buffalo.

**Chemical Biology, Drug Discovery and Bioanalytical Methods**

**LB113** Cellular Uptake of a Cystine-Knot Peptide and Modulation of Its Intracellular Trafficking. **X. Gao, K. Stanger, H. Kaluarachchi, T. Maurer, P. Ciepla, C. Chalouni, Y. Franke, R.N. Hannoush.** Genentech.

**LB114** Investigation of the Mechanism of Cytotoxic Natural Product PateamineA Analog. **S S. Kommaraju, W-K. Low, D. Romo.** St. John's University and Texas A&M University.

**LB115** Lybatide: Naturally Occurring Disulfide-Stapled Helical Peptides from *Lycium barbarum*. **W.L. Tan, K.H. Wong, J.P. Tam.** Nanyang Technological University, Singapore.

**LB116** A Multifunctional Platform for Rapid Detection and Post-Detection Analysis of Circulating Tumor Cells. **Y. Yang, R. Datar, R. Cote, S. Daunert.** University of Miami.

**LB117** Antioxidant Effects of *Agastache mexicana* Extracts: An *in Vitro* Approach. **E.R. Esquivel-Gutiérrez, E. Coria-Orozco, R. Torres-Martínez, A. Hernández-García, P. Ríos-Chávez, S. Manzo-Ávalos, A. Saavedra-Molina, R. Salgado-Garciglia.** Centro de Investigaciones Biológicas del Noroeste S.C., Mexico and Universidad Michoacana de San Nicolás de Hidalgo, Mexico.

**LB118** Improving Therapy for Refractory Mantle Cell Lymphoma Using Small Molecule Inhibitors Vorinostat and Palbociclib to Target Histone Deacetylase and Cyclin Dependent Kinase 4/6. **N. Hatch, N. Chaturvedi, M. Kling, S. Joshi.** University of Nebraska Medical Center at Omaha.

**LB119** Inhibitory Effects of Single Component Isolated in Natural Product Complex (No-ap) on the AT1 Receptor Expression and Oxidative Stress in Angiotensin II-Stimulated Cells. **E.Y. Hong, G.U. Hong, Y.H. Shin, Y-I. Kwon, J.Y. Ro.** Hyunsungvital Co. Ltd., Life and Science Research Center, Republic of Korea, and Daedeok Valley Campus, Republic of Korea.

**LB120** Inhibition of Osteoarthritis-Related Molecules by Single Component Identified from Natural Product Complex (Ryupunghwan) in IL-1 $\beta$ -Stimulated SW1353 Cells. **G.U. Hong, E.Y. Hong, Y.H. Shin, Y-I. Kwon, J.Y. Ro.** Hyunsungvital Co. Ltd., Life and Science Research Center, Republic of Korea, and Daedeok Valley Campus, Republic of Korea.

**LB121** Profiling and Authentication of Herbal Products. **J. Huang, K.H. Wong, J.P. Tam.** Nanyang Technological University, Singapore.

**LB122** Effects of the Vascular Disrupting Agent OXi8006 on Activated Endothelial Cell Signaling and Tumor Growth Delay in a Breast Cancer Mouse Model Treated with the Corresponding Phosphate Prodrug Salt OXi8007. **S.O. Odutola, T.E. Strecker, E.A. Taylor, J. Schwartze, J. Gerberich, M.T. MacDonough, D.J. Chaplin, L. Liu, R.P. Mason, K.G. Pinney, M.L. Trawick.** Baylor University, University of Texas Southwestern Medical Center and Mateon Therapeutics Inc.

**LB123** Serum Protein S100B, a Biomarker for Head Injury or Skeletal Muscle Damage? **A. Harris, S. Keuler, A. Kerska, M. Rogatzki.** University of Wisconsin–Platteville.

**LB124** Bioorthogonal Protein Conjugation: Application for the Development of a Highly Sensitive Bioluminescent Immunoassay for the Detection of Interferon- $\gamma$ . **A. Moutsopoulos, E. Hunt, D. Broyles, C.A. Pereira, K. Woodward, E. Dikici, A. Kaifer, S. Daunert, S. Deo.** University of Miami and Universidade Federal de Goias, Brazil.

**LB125** Employing Surface-Displayed Proteins on *Bacillus megabacterium* Spores to Detect Environmental Pollutants. **D.T. Wynn, R. Mittal, L. Knecht, S. Deo, S. Daunert.** University of Miami.

**LB126** Using Small Angle X-Ray Scattering to Determine the Role of Poly-Cystic Kidney Disease-Like Domains in *Clostridium histolyticum*. **P.C. Caviness, T. Koide, O. Matsushita, J. Sakon.** University of Arkansas, Waseda University, Japan, and Okayama University Graduate School of Medicine, Japan.

**LB127** Differential Sedimentation of Linear Versus Circular DNAs Using Divalent Metal Cations. **C.J. England, T. Grey, K. Lewis.** Texas State University.



**LB128** Determination of Total Oxytocin in Human Serum by Traditional LCMS. **A. Franke, A. Menden, X. Li.** University of Hawaii.

**LB129** Absolute Quantitation of mRNA and DNA Copy Number in Different Nutritional States: A Methodological Approach in Primer Design, mRNA Copy Number and Discrimination Between Highly Homologous Gene Families. **P. Rote, L.A. Shirota, K. Sharma, J.P. Hardwick.** Northeast Ohio Medical University (NEOMED), University of Marilia Medical School (UNIMAR), Brazil, and Case Western University School of Medicine.

**LB130** Strategies for Point-of-Care Detection of Nucleic Acid Targets. **D. Broyles, S.K. Deo.** University of Miami.

**LB131** Identification of a High-Risk Cardiovascular Disease Population: Combining Computational Modeling and Bioluminescence Imaging. **T. Head, P. Dau, V. Andreev, S. Deo, P. Daftarian, P. Goldschmidt-Clermont, S. Daunert.** University of Miami Miller School of Medicine, Arbor Research Collaborative for Health and NGM Biopharmaceuticals Inc.

**LB132** Role of Albumin on the Cellular Uptake and Selective Autophagy of Nanodiamonds. **E.N R. Lawrence, H-C. Su, K-K. Liu, J-I. Chao.** National Chiao Tung University, Taiwan.

### Systems Biology Technologies and Applications

**LB133** Integrated Sigma Dynamics Quantum Energy Therapy Presented by Mathematical Function and Matrices in Immune Stimulation. **G.P. Einstein, O.L. Tulp, M. Idle, C.M. Konyk.** University of Science, Arts and Technology, Montserrat, and Einstein Medical Institute.

**LB134** Linking Nutrition and Molecular Biology Using Data Mining and Graph Theory. **R. Linchangco, J.J. Jay, C. Brouwer.** University of North Carolina at Charlotte.

**LB135** Association Between Women with Endometriosis and Human Leukocyte Antigen-C Genotyping. **Y-C. Chou, C-R. Tzeng.** Taipei Medical University, Taiwan and Taipei Medical University Hospital, Taiwan.

**LB136** Altered Brain Hemoglobin Gene Expression in the Frontal Cortex of Patients with Alzheimer's and Acquired Creutzfeldt-Jakob's Disease. **S. Vanni, M. Zattoni, F. Moda, F. Tagliavini, S. Haik, J-P. Deslys, G. Zanusso, J.W. Ironside, I. Ferrer, G. Kovacs, G. Legname.** Scuola Internazionale Superiore di Studi Avanzati, Italy, Istituto di Ricovero e Cura a Carattere Scientifico (IRCCS) Foundation Carlo Besta Neurological Institute, Italy, Sorbonne Universités, France, Commissariat à l'énergie atomique et aux énergies alternative, France, University of Verona, Italy, National CJD Research and Surveillance Unit, United Kingdom, Bellvitge University Hospital, Institut d'Investigació Biomèdica de Bellvitge, Spain, and Medical University of Vienna, Austria.

**LB137** The Pseudophosphatase MK-STYX's Effects on Dynein. **A. Whitaker, L. Hall-Mozingo, S. Hinton.** College of William & Mary.

**LB138** The Sweat Mediator Lipidome Is Affected by Stimulation Technique but Not Sampling Location. **K. Agrawal, J.D. Waller, M.V. La, E.L. Bonnel, J.W. Newman.** University of California at Davis, National Institutes of Health West Coast Metabolomics Center and US Department of Agriculture–Agricultural Research Service–Western Human Nutrition Research Center.

**LB139** Using Metabolite Profiling to Understand the Consequences of Iron-Source Choices by *Staphylococcus aureus*. **J. DuBois, A. Celis.** Montana State University.

### Signal Transduction and Cellular Regulation

**LB140** Activation of the D2 Dopamine Receptor Hampers the Protective Effect of the A<sub>2A</sub> Adenosine Receptor on TDP-43 Mislocalization. **Y. Chern, C-Y. Lai, Y-J. Liu, H-L. Lai.** IBMS and Academia Sinica, Taiwan.

**LB141** Investigating Methylated Arginine Residues in PGC-1 $\alpha$ . **J.M. Cuala, I.M. Osuji, C. Zurita-Lopez.** California State University at Los Angeles.

**LB142** Effect of Outer Hair Cell-Specific STAT3 Deletion in the Noise-Induced Cellular Stress Response. **S. Dziennis, T.L. Wilson, S.L. Foster, A.L. Nuttall.** Oregon Health & Science University.

**LB143** Role of Serotonin Signaling in the Remodeling of Thioridazine-Induced Craniofacial Deformities in *Xenopus laevis* Pre-Metamorphic Tadpoles. **J.S. Familia, K. Pinet, K.A. McLaughlin.** Tufts University.

**LB144** AKT2 Is the Predominant Akt Isoform Expressed in Human Skeletal Muscle. **A.V. Geddis, M.N. Abdalla, L.A. Leandry, H.L. McClung, S.M. Pasiakos, R.W. Matheny Jr.** US Army Research Institute of Environmental Medicine.

**LB145** Arl4A Interacts with Robo1 to Promote Cell Migration via Up-Regulating Cdc42 Activation. **F-J.S. Lee, T-S. Chiang, C-H. Chen, M-C. Tsai, L-T. Jang.** National Taiwan University, Taiwan.

**LB146** NF $\kappa$ B Activation and Cytokine Output in LPS-Treated RAW 264.7 Macrophages. **M. Reynoso, A. Geddis, A. Mitrophanov, R.W. Matheny Jr., S. Hobbs.** US Army Research Institute of Environmental Medicine, DoD Biotechnology High Performance Computing Software Applications Institute, and Telemedicine and Advanced Technology Research Center.

**LB147** CD95-Ligand from Myeloid Cells Contributes to Abdominal Aortic Aneurysm Formation. **W. Xiong, T. Meisinger, M. Fitzgerald, R. Batra, B T. Baxter.** University of Nebraska Medical Center.

**LB148** Dissecting the Dual Activity of Cellular Retinoic Acid Binding Protein 2 (CRABP2). **A. Vreeland, D. Driscoll, N. Noy.** Cleveland Clinic Foundation/Lerner Research Institute.

- LB149** AKT Signaling Is Essential for Functional and Structural Integrity of the Heart. **S. Goedecke, A. Heinen, F. Moeller, R. Deenen, K. Koehrer, A. Goedecke.** UKD Heinrich-Heine-University, Germany.
- LB150** Probing the Structural and Biochemical Basis for the Development of Cushing's Syndrome Caused by a Somatic Mutant of Protein Kinase A. **C. Walker, A. Karamafrooz, Y. Wang, S. Taylor, G. Veglia.** University of Minnesota–Twin Cities and University of California at San Diego.
- LB151** EphA2 Organization and Dynamics in Cancer Cells. **D.M. Bowman, X. Shi, V. Hapiak, J. Zheng, J. Muller-Greven, R. Lingerak, M. Buck, B-C. Wang, A. Smith.** University of Akron, MetroHealth Medical Center and Case Western Reserve University.
- LB152** The Bacterial Chloride/Proton Antiporter: A Molecular Machine. **D. Shannon, J. Glass, B. Hall, K. Peters, J. Hardesty.** Moeller.
- LB153** Carbon Monoxide as a Mediator of Ca<sup>2+</sup> Signaling for Insulin Secretion in Pancreatic Islets. **F.U. Rahman, U-H. Kim.** Chonbuk National University Medical School, Republic of Korea.
- LB154** Ecdysoneless, a Novel Regulator of Calcium Influx. **A. Sarkar.** University of Nebraska Medical Center.
- LB155** Modulations of Calcium in Adipose Tissue by TRPC1: A Key Player in Obesity. **A. Schaar, D. Krout, J.N. Roemmich, K.J. Claycombe-Larson, B.B. Singh.** University of North Dakota, US Department of Agriculture–Agriculture Research Service and Grand Forks Human Nutrition Research Center.
- LB156** Inositol Hexakisphosphate Increases the Transition Constant and the Affinity of Horse Aquomethemoglobin for 5,5'-Dithiobis(2-Nitrobenzoate). **O.E. Omotosho, S.N. Chinedu.** Covenant University, Nigeria.
- LB157** Heterogeneity Pattern of Apoptosis Mediators in Cervical Carcinoma Cells. **I. García-Aguiar, O. Del Moral-Hernández, M. Martínez-Castillo, R. Bonilla-Moreno, N. Villegas-Sepúlveda.** Center for Research and Advanced Studies of the National Polytechnic Institute, Mexico.
- LB158** Regulation of MAP Kinase Signaling by c-Myc Mediates the Apoptotic Response to Vinca Alkaloids. **R.A. Gristock, C.T.K. Wales, A.T. Jacobs.** University of Hawaii at Hilo.
- LB159** C-Terminal 15kDa Fragment from  $\beta$ -Actin Causes Apoptotic Cell Death. **N. Ito, S. Tone, M. Tanaka.** Tokyo Denki University, Japan.
- LB160** Downregulation of X-Linked Inhibitor of Apoptosis Protein by '7-Benzylidenenaltrexone Maleate' Sensitizes Pancreatic Cancer Cells to TRAIL-Induced Apoptosis. **S-Y. Kim, S. Park, S. Yoo, J.K. Rho, E S. Jun, S. Chang, K.K. Kim, S.C. Kim, I. Kim.** ASAN Medical Center, Republic of Korea, University of Ulsan College of Medicine, Republic of Korea.
- LB161** Treatment Effects of Vorinostat and Letrozole Combination on Breast Cancer Cell Survival and Peripheral Blood Mononuclear Cell Differentiation. **U. Natarajan, S. Samuel, R. Vijayaraghavan, A. Rathinavelu.** VRR Institute of Biomedical Science, India, and Nova Southeastern University.
- LB162** *Paspalum scrobiculatum* Polyphenol Rich Extracts Inhibit Human Cervical Cancer Cell Proliferation and Induce Apoptosis *In Vitro*. **S. Ramasamy, K. Anupam, C.V. Ratnavathi, D. Karunagaran, T.S. Chandra.** Indian Institute of Technology–Madras, India, and Indian Institute of Millets Research, India.
- LB163** Analysis of the Expression of E6<sup>Δ</sup>E7, a Short Splicing Variant of HPV-16-E6 in the HPV Negative Cervical Carcinoma Cells C33-A. **C.E. Vaisman, R. Bonilla-Moreno, N. Villegas-Sepúlveda.** Center for Research and Advanced Studies of the National Polytechnic Institute, Mexico.
- LB164** Role of Primary Cilia in Cell Migration. **J. Ganesh, F. Miskevich.** University of Michigan, Flint.
- LB165** Analysis of Cell Spreading as a Function of Integrin Inhibition. **P. Soneral, H. Zipoy, K. Lunacek.** Bethel University.
- LB166** Suppressor of IKK Epsilon (SIKE) Acts as a Bridge Between Innate Immune Signalling Pathway and Cytoskeletal Rearrangements. **K.A. Wittenberg, F.A. Slykas, H.A. Sonnenschein, J.K. Bell.** University of San Diego.
- LB167** Signaling Pathways Implicated in Butyrate-Arrested Vascular Smooth Muscle Cell Proliferation. **O.P. Mathew, K. Ranganna, C. Selvam, Z. Yousefipour.** Texas Southern University.
- LB168** Mangosteen Extract as Agent for Inhibiting Breast and Lung Cancer Cell Growth. **A.H. Bahannan, T. Johnson, E. Myles.** Tennessee State University.
- LB169** BET Inhibition Suppresses Gastric Cancer Cell Proliferation by Inducing Cell Senescence. **X. Dong.** University of Illinois at Urbana-Champaign.
- LB170** Prolyl Isomerase Pin1 Regulates the Stability, Transcriptional Activity and Oncogenic Potential of Brd4. **X. Hu.** University of Illinois at Urbana-Champaign.
- LB171** Characterization of Human SH2 Domain-Containing Protein 4A(SH2D4A) in HeLa Cells. **L. Tamborlin, K.D. Pereira, L. Meneguello, A.R.G. de Proença, A.D. Luchessi.** University of Campinas, Brazil and São Paulo State University, Brazil.
- LB172** Characterizing the Transcriptional Regulation of Importin  $\alpha$ 1 Expression in Non-Small Cell Lung Cancer. **C-J. Yu, Y-Y. Cheng, H-P. Feng, P-Y. Li, C-L. Wang.** Chang Gung Memorial Hospital, Linkou, Taiwan and Chang Gung University, Taiwan.
- LB173** LPIN1 Promotes Epithelial Cell Transformation and Mammary Tumorigenesis via Enhancing Insulin Receptor Substrate 1 Stability. **H.S. Choi.** Chosun University, Republic of Korea.

- LB174** Breast Tumor Cell-Derived FGF-5 Induces MEKK1-Dependent Chemokine Expression in Mammary Fibroblasts: Implications for Tumor Microenvironment. **B.D. Cuevas**. Loyola University Chicago.
- LB175** Synthesis and Anti-Cancer Activity of Cysteine-Deleted Tachyplesin Analogs. **A. Eitel, N. Hendrickson, D. Heyl-Clegg, H. Evans, J. Guthrie**. Eastern Michigan University.
- LB176** Targeting Potassium Channels in Cancer: A Novel Strategy for Therapeutic Intervention. **S. Gentile**. Loyola University Chicago.
- LB177** Inhibition of Human Prostate Cancer Growth by Mesenchymal Stem Cells Delivering MiR-16. **E. Jones, P. Mazirka, M.A. McNurlan, P. Brink, G. Caso**. Rutgers, Robert Wood Johnson Medical School and Stony Brook University Medical Center.
- LB178** Mir-16 and Mir-34a Suppress Growth of a Variety of Human Cancer Cells. **E. Jones, P. Mazirka, M.A. McNurlan, P. Brink, G. Caso**. Rutgers, Robert Wood Johnson Medical School and Stony Brook University Medical Center.
- LB179** Withaferin A Suppresses and Inhibits Hepatocellular Carcinoma-Cell Proliferation and Tumor Burden via Activation of ERK1/2-ELK1-RSK-DR5 Axis. **P. Kuppasamy, A. Nagalingam, C. Drachenberg, D. Sharma, N.K. Saxena**. University of Maryland School of Medicine and Johns Hopkins University School of Medicine.
- LB180** Haspin Is a Survival Factor for H3T3 Phosphorylation and Survivin Recruitment in Malignancy of Colorectal Cancer. **T-C. Lee, Y-H. Chang, T-W. Yu, T-K. Shen, M-C. Tsai, C-C. Huang, T-W. Yang, C-C. Lin, G-Y. Chiou, Y-J. Jong, J-I. Chao**. National Chiao Tung University, Taiwan, and Chung Shan Medical University Hospital, Taiwan.
- LB181** A Novel Synthetic Compound Overcomes Drug Resistance on EGFR (T790M) and Cancer Stemness in Human Non-Small Cell Lung Cancer. **P.Y. Pan, C-J. Chang, K-K. Liu, Y-C. Chan, Y-T. Chen, J-I. Chao**. National Chiao Tung University, Taiwan.
- LB182** Glioma Cell Proliferation Promoted by AK4 Regulated mTORC1 Pathway Activation. **J. Silva, N. Lanning**. California State University at Los Angeles.
- LB183** Characterization of a Patient Fibroblast Cell Line with Infantile Neuronal Ceroid Lipofuscinosis Disorder. **B. Balouch, Q. Chu-LaGraff**. Union College.
- LB184** Subpopulations of Neurotensin Neurons in the Lateral Hypothalamic Area Respond to Distinct Cues and Contribute to Energy Balance by Discrete Mechanisms and Projections. **J.A. Brown, A. Wright, R. Bugescu, H.L. Woodworth, G. Kurt, G.M. Leininger**. Michigan State University.
- LB185** Influence of Farnesene on Male Aggression in Rodents: A Behavioral and Mapping Study. **A. Ganga, I. Davison, Y. Gao**. Valley High School and Boston University.
- LB186** The Cytoprotective Effect of Chlorogenic Acid Against Oxidative Stress-Induced Cell Damage via the ERK and PI3K/Akt-Mediated Nrf2/HO-1 Signaling Pathways. **M. Jang, G-H. Kim**. Duksung Women's University, Republic of Korea.
- LB187** Assessment of an Immortalized Rat Dopaminergic Neuronal Cell Line as a Potential Model for Studying Dopamine Transporter Function. **G.H. Larson, D.J. Stanislawski, J.D. Foster**. University of North Dakota School of Medicine and Health Sciences.
- LB188** The Neuroinflammatory Role of Fyn-PKC- $\delta$  Signaling Pathway in the Mouse Kainate Model of Epileptogenesis. **S. Sharma, S. Puttachary, M. Putra, S. Sarkar, A.G. Kanthasamy, T. Thippeswamy**. Iowa State University.
- LB189** Subpopulations of Dopamine Transporters Show Enrichment in Phosphorylation or Palmitoylation. **M.H. Storaardt, M.J. Hovde, D.J. Stanislawski, R.A. Vaughan, J.D. Foster**. University of North Dakota School of Medicine and Health Sciences.
- LB190** Antioxidant Activity and Protective Effect on PC12 Against H<sub>2</sub>O<sub>2</sub> of *Epimedium koreanum*. **S. You, M. Jang, G-H. Kim**. Duksung Women's University, Republic of Korea.
- LB191** Maintenance of Antibody Avidity in Alaska Native Adolescents Receiving Quadrivalent Human Papillomavirus (HPV) Vaccine. **A.M. Brady, G. Panicker, E. Meites, L. Bulkow, D. Hurlburt, L. Markowitz, E. Unger, M. Bruce**. Centers for Disease Control and Prevention.
- LB192** The Role of Glucose-6-Phosphate Dehydrogenase of Inflammasome Activation. **D.T-S. Chiu, W. Yen, Y-H. Wu**. Chang Gung University, Taiwan, and Linkou Chang Gung Memorial Hospital, Taiwan.
- LB193** NLRP3 Inflammasome Is Critical for Lipopolysaccharide-Induced Depressive-Like Behaviors. **E. Lee, S-A. Jeon, I. Hwang, J. Yu**. Brain Korea 21 PLUS Project for Medical Science, Republic of Korea, and Yonsei University College of Medicine, Republic of Korea.
- LB194** Modulation of Inflammasome Signaling by Advanced Glycation End Products (AGEs). **S. Son, I. Hwang, J-W. Yu**. Yonsei University College of Medicine, Republic of Korea, and Brain Korea 21 PLUS Project for Medical Science, Republic of Korea.
- LB195** *Pseudomonas aeruginosa* Attenuates Inflammasome Activation via Quorum Sensing-Dependent Mechanism. **J. Yang, K-M. Lee, S. Park, S-S. Yoon, J-W. Yu**. Institute for Immunology and Immunological Diseases, Yonsei University, Republic of Korea, Brain Korea 21 PLUS Project for Medical Science, Republic of Korea, and Yonsei University College of Medicine, Republic of Korea.

**LB196** Generating a Novel Cell Line with a Codon Optimized LINE1 Element at a Single Locus. **B. Russell, M. Morales, C. DeFreece.** Xavier University of Louisiana and Tulane University.

### Microbial Systems and Parasitology.

**LB197** Identification of Amidase Negative Strains of *bacillus thuringiensis*. **S.Z. Filfilan, T. Johnson, A. Ejiofor.** Tennessee State University.

**LB198** Elucidating Peptide Pheromone Signaling in Pathogen Conversations to Understand Advantages of Social Cooperation. **M.J. Federle.** University of Illinois at Chicago.

**LB199** Direct and Specific Interaction of MIF and Bacterial Endotoxin May Play an Important Role in the Pathogenesis of Sepsis. **T. Cho.** Saint Louis University School of Medicine.

**LB200** Epstein-Barr Viral microRNAs Coordinately Repress Human Transcripts in Inflammatory and Apoptotic Pathways. **D. Kolakada, C. Katrak, K. Riley.** Rollins College.

**LB201** Identification and Characterization of Population Heterogeneity of *Vibrio cholerae in Vivo*. **Y.N. Nguyen, L.M. Shull, A. Camilli.** Tufts University School of Medicine.

**LB202** Genotypically Distinct *Helicobacter pylori* Causes Gastric and Peptic Ulcer Diseases in Kashmir Indian Patients. **S. Rehman, A.C. Bharti, B.C. Das, J. Talukder.** West Virginia University, University of Delhi North Campus, India, and University of Wisconsin–Stout.

**LB203** Characterizing the Mechanism of Trophocytosis in *Entamoeba histolytica*. **S.E. Feeney, K.S. Ralston.** University of California at Davis.

**LB204** *Toxoplasma gondii* Reprogram Metabolism of the Host During Infection. **I. Gendlina, K. Kim.** Albert Einstein College of Medicine.

**LB205** Spectroscopic Investigation of Novel New Delhi Metallo- $\beta$ -Lactamase-1 Inhibitors. **A. Bergstrom, Z. Cheng, C. Miller, A. Chen, P. Thomas, R. Bonomo, W. Fast, S.M. Cohen, R.C. Page, D.L. Tierney, M.W. Crowder.** Miami University, University of California, University of Texas, Louis Stokes Cleveland Department of Veterans Affairs Medical Center and Case Western Reserve University.

**LB206** Spinal Cord Injury and the Gut Microbiome: Mechanisms and Therapies for Bowel Dysfunction. **E. Jeffrey, G. O'Connor, S. Deo, D. Dietrich, S. Daunert.** University of Miami Miller School of Medicine.

**LB207** Detection and Quantification of Probiotic Strains in Clinical Fecal Samples of Healthy Adults by Real-Time PCR. **V. Nagulesapillai, J. Belvis, T. Tompkins, S. Girard.** Lallemand Health Solutions, Canada.

### Metabolism and Bioenergetics

**LB208** EIF5A1 Isoform A Can Modulate the Metabolism in HeLa Cells. **K.D. Pereira, L. Tamborlin, L. Meneguello, L.H. Bomfim, A.R. de Proença, C.F. Melo, R.R. Catharino, L. Silveira, A.D. Luchessi.** University of Campinas, Brazil, and São Paulo State University, Brazil.

**LB209** Generation of Leigh Syndrome Cell Models. **J. Alvarado.** California State University at Los Angeles.

**LB210** Metabolic Differences in Nonessential Amino Acid Plasma Concentrations in High- and Low-Active Mice. **J.Z. Granados, G.A.M. Ten Have, A.C. Letsinger, N.E.P. Deutz, J. Lightfoot.** Texas A&M University.

**LB211** Metabolic Differences in Essential Amino Acid Plasma Concentrations in High- And Low-Active Mice. **A.C. Letsinger, J. Granados, G.A.M. Ten Have, N.E.P. Deutz, J T. Lightfoot.** Texas A&M University.

**LB212** Elucidation of Juglone Synthesis in Black Walnut. **R.M. McCoy, Y. Ye, J.R. Widhalm.** Purdue University.

**LB213** The Good, the Bad and the Ugly of Nitric Oxide, Superoxide and Peroxynitrite Signaling During Oxygen-Glucose Deprivation in Rat and Arctic Ground Squirrel. **S. Bhowmick, K. Drew.** University of Alaska Fairbanks.

**LB214** SP-A2 Contributes to miRNA-Mediated Sex Differences in Response to Ozone-Induced Oxidative Stress: Pro-Inflammatory, Anti-Apoptotic, and Anti-Oxidant Pathways Are Involved. **N. Thorenoor, G.T. Noutsios, X. Zhang, D.S. Phelps, T.M. Umstead, F. Durrani, J. Floros.** Penn State University College of Medicine.

**LB215** Tales from the Crypt: Malic Enzyme 1 (ME1) Links Metabolism to Intestinal Cancer. **L. Fernandes, A. Al-Dwairi, M. Marji, D. Brown, R.C.M. Simmen, F.A. Simmen.** University of Arkansas for Medical Sciences.

**LB216** Comparison of Postprandial Hypoglycemic Effect of *Ecklonia cava* Extract in Healthy Subjects Using Three Different Challenge Models. **Y. Kim, H.J. Lee, Y.S. Ahn, O. Kwon.** Ewha Womans University, Republic of Korea.

**LB217** Oral Supplementation of Soybean and Hop Restored Bone Mass and Bone Turnover in Ovariectomized Rats. **H. Lee, D. Noh, Y. Lim, O. Kwon.** Ewha Womans University, Republic of Korea.

**LB218** Persimmon Tannin Regulates Gene Expressions Important for Lipogenesis and Cholesterol Efflux in HepG2 Cells. **E.K. Oh, Y. Ahn, O. Kwon.** Ewha Womans University, Republic of Korea.

**LB219** Ethanol Extract of *Phlomis tuberosa* l. Promotes Glucose Uptake in 3T3-L1 Preadipocytes via Insulin Signaling Pathway. **D. Baatar, O. Sukhbaatar, B. Oyungerel, S. Hwang.** Hankyong National University, Republic of Korea, and Mongolian University of Life Sciences, Mongolia.

**LB220** P311, an Intrinsically Unstructured Protein, in Adipogenesis. **K.R. Badri, K.M. Muppuru, R.E. Samuel.** Hampton University, Morehouse School of Medicine and Sree Vidyanikethan Engineering College, India.

**LB221** Melatonin Improves Insulin Resistance and Hepatic Steatosis Through Attenuation of ER Stress. **J. Heo.** Korea University, Republic of Korea.

**LB222** Cytokine Production by Insulin Resistant Adipocytes. **K.R. Levenberg, T. Laakko-Train.** Elon University.

**LB223** The Optical Spectroscopic Properties of Glycation Induced Changes in Hemoglobins. **V. Sriramoju, R. Dudley, J.A. Secor, S. Ashrafi, R.R. Alfano.** The City College of New York, City University of New York and NxGen Partners.

### Lipids and Membranes

**LB224** A Novel Assay for Cardiolipin Quantification in Isolated Mitochondria and Cell Lysates. **V. Bahl, S. Saddar.** BioVision.

**LB225** Identification of Sterolic and Phenolic Catalpa Extractive Components. **G.S. Epstein.** University of Wisconsin–Madison and US Department of Agriculture, Forest Products Laboratory.

**LB226** Yeast Pah1 Phosphatidate Phosphatase Regulates the Expression of Phosphatidylserine Synthase for Membrane Phospholipid Synthesis. **G. Han, G.M. Carman.** Rutgers University.

**LB227** HIF-1 $\alpha$ -Mediated Induction of Insig-2 Regulates Cholesterol Metabolism by Accelerating Degradation of HMGCR. **S. Hwang, Y. Jo, N. Wolff, J. Brugarolas, R. DeBose-Boyd.** University of Texas Southwestern Medical Center.

**LB228** Dietary Long-Chain Monounsaturated Fatty Acid (LCMUFA) as Functional Ingredient in Fish Oils: A Novel Approach for Cardioprotection. **Z. Yang, S. Gordon, M. Pryor, H. Miyahra, J. Takeo, A.T. Remaley.** National Institutes of Health (NIH), Central Research Laboratory and Nippon Suisan Kaisha, Japan.

**LB229** Targeted LC/MS-Based Quantitative Determination of 8 Endogenous Free Fatty Acids in Human Pleural Effusion Using Surrogate Analytes. **L.Y. Yip, N. Basri, K.L. Lim, G.S. Tan, D.S.W. Tan, T.K.H. Lim, Y.S. Ho.** Bioprocessing Technology Institute, Singapore, Singapore General Hospital, Singapore and National Cancer Centre, Singapore.

**LB230** Identification of Metabolites of Maresin 1 in Human Neutrophils. **M.A. Gijón, A-C. Almstrand, C.A. Johnson, R.C. Murphy, S. Zarini.** University of Colorado at Denver and Sahlgrenska University Hospital, Sweden.

**LB231** Skin of the Catfish (*Arius bilineatus*, Val.) Contains Lipid Compounds That Regulate NET Formation and NET-Mediated Inflammation. **C. Pace-Asciak, J.M. Al-Hassan, M. Afzal, B. Paul, S. Oommen, M. Khan, Y.F. Liu, N. Palaniyar.** Research Institute, The Hospital for Sick Children, Canada, Kuwait University, Kuwait and CMS College, India.

### Cell and Organelle Dynamics

**LB232** The Role of the Subunits of the Conserved Oligomeric Golgi Complex in Filamentous Growth of the Fungus *Aspergillus nidulans*. **S. Gremillion.** Armstrong State University.

**LB233** A Novel Yeast-Based Screening System Identifies Signal Motifs That Regulate Membrane Protein Trafficking. **J. Bernstein, Y. Okamoto, S. Shikano.** University of Illinois at Chicago.

**LB234** Type I Interferons Block Extracellular Vesicle-Mediated Cargo Transfer. **M.P. Hantak, E. Qing, T. Gallagher.** Loyola University Stritch School of Medicine.

**LB235** Cellular Proteases Prime Extracellular Vesicles for Intercellular Communication. **E. Qing, M. Hantak, T. Gallagher.** Loyola University Stritch School of Medicine.

**LB236** Regulatory Mechanisms of Sec1/Munc18 Proteins in Intracellular Vesicle Fusion. **H. Yu, Y. Liu, J. Shen.** University of Colorado at Boulder.

**LB237** Nuclear Blebbing Solely as a Function of Chromatin Compaction State. **P.Z. Liu, A.D. Stephens, E.J. Banigan, L. Almassalha, V. Backman, S.A. Adams, R.D. Goldman, J.F. Marko.** Northwestern University and Feinberg School of Medicine, Northwestern University.

**LB238** Comparison of the Structure Between the Wild Type Lamin A/C Protein and the Cardiac Disease Causing Variant D192G. **S. Wall, A. Akman, A. Chow, M. Deng, F. Dumitrascu, M. Jiang, M. McCartney, T. Nguyen, T. Rulko, N. Sullivan, L. Wang, M. Xiao, H. Nicolas.** Ashbury College School, Canada and University of Ottawa, Canada.

**LB239** Drug Delivery in the Eye. **J. Hosten, S. Penumutthu, E. Lavik.** University of Maryland and Baltimore County.

**LB240** Peroxynitrite Produced in Isolated Guinea Pig Cardiac Mitochondria: Role of Mitochondrial NOS. **H.J. Gerdes, J.S. Heisner, M. Yang, A.K.S. Camara, D.F. Stowe.** Medical College of Wisconsin.

**LB241** First-In-Class Naturally Occurring Bioenergetic Peptide from *Hibiscus sabdariffa*. **A. Kam, S. Loo, J.P. Tam.** Nanyang Technological University, Singapore.

**LB242** MELAS and POLG Exhibit High Rates of Hypertension with Differential Resistance to Anti-Hypertensive Drugs Suggesting Divergent Pathogenic Mechanisms. **A.D. Pauls, D-L. Nevay, D. Young, V. Sandhu, D.F. Yeung, M.M.Y. Tsang, T.S.M. Tsang, A. Mattman, M.M. Mezei, D. Poburko.** Simon Fraser University, Canada, Vancouver General Hospital, Canada, and University of British Columbia, Canada.

### Glycans and Glycobiology

**LB243** Antidiabetic Activity and Gene Expression Profiling of db Mice Treated with *Catharsius molossus* (a Type of Dung Beetle) Glycosaminoglycan. **M. Ahn, H. Kim, B. Kim, J. Hwang.** National Academy of Agricultural Science, Republic of Korea.

**LB244** Anti-Cancer Effect and Gene Expression Profiling of Melanoma Induced Mice Treated with Dung Beetle Glycosaminoglycan. **M.Y. Ahn, H.J. Kim, B.J. Kim, J.S. Hwang.** National Academy of Agricultural Science, Republic of Korea.

**LB245** Cellulose Degradation in Anaerobic Condition by Filament Fungi. **B. Mercado-Garcia.** University of Puerto Rico, Puerto Rico.

**LB246** Biological Roles of Oligosaccharides on Recombinant Eel LH and Functions of EeLH Receptors. **M. Byambaragchaa, M-H. Kang, D. Kim, K-S. Min.** Hankyong National University, Republic of Korea, Hoseo University, Republic of Korea, National Institute of Fisheries Science (NIFS), Republic of Korea, and Institute of Genetic Engineering, Republic of Korea.

### ASBMB Education and Professional Development

**LB247** Improving the Recruitment, Retention, and Success of Students in STEM Disciplines. **D.M. Baker, K.M. Slunt.** University of Mary Washington.

**LB248** Shadow-A-Postdoc Initiative: Evaluation of the Undergraduate Students' Research Workshop Series at the University of Alabama at Birmingham. **O. Adedoyin, G. Jones, L. Schwiebert.** University of Alabama at Birmingham.

**LB249** Simulating a Graduate Student Experience in an Undergraduate Course. **A.E. Bednarski.** Washington University in St. Louis.

**LB250** A 3D Intervention Addressing Enzyme-Substrate Interactions Misconceptions. **C. Terrell, C. Bongers.** University of Minnesota–Rochester.

**LB251** Development of an Interdisciplinary Undergraduate Research Training Program to Improve Retention and Future Success of Women in STEM. **L.A. Nogaj, L. Roberts, S. Deprele.** Mount Saint Mary's University Los Angeles.

**LB252** Integrase Move-In Day: Mechanisms of HIV DNA Integration. **T.A. Windgassen, S. Fahlberg, B. Hanson, K. Klauser, S. Semia, J.L. Keck.** University of Wisconsin–Madison and Monona Grove High School.

**LB253** Fix the Wrecks, RecA. **K. Dubiel, A. Liang, L. Sandholm, J.L. Keck.** University of Wisconsin–Madison and Madison West High School.

**LB254** Developing 3-D Molecular Models to Highlight the Angiotensin II Type 1 Receptor and Olmesartan Binding for Medical and Educational Applications. **E.F. Schmitt Lavin, G. Merus, V. Ramirez, R. Vohra.** Nova Southeastern University.

**LB255** Industry and Community Engagement in a High School Bioscience Course. **A.J. Tabor, R.J. Gray.** Northern Arizona University, Coconino Community College and CAVIAT.

**LB256** The Role of MeCP2 Mutations in a Reg-Rett-Able Syndrome. **M. Arnholt, H. Bertucci, M. Bertucci, T. Dorosz, T. Hart, A. Heimermann, M. Lentz, T. Rusch, J. Schultz, N. Weber, H. Weiss, G. Makky.** Hartford Union High School and Marquette University.

**LB257** Dll4: “Notch” Your Normal Pathway. **E. Barmantje, E. Nelson, A. Agrawal, S. Chanjeevaram, A. Jhaveri, M. Lazar, K. Li, D. McManus, N. Santebennur, M. Schlidt, M. Medhora.** Elmbrook Schools and Medical College of Wisconsin.

**LB258** Kinesin, the Workhorse of the Living Cell. **J. Blythe, M. Burns, K. Fuchs, Z. Uttley.** Pittsburg High School.

**LB259** Neuroglobin Gone Wild. **C.L. Bresniker, S.A. Martinez, P. Anderson, B. Bartolomei, T. Bingham, P. Bogdon, J. Dulay, J. Mergens, A.W. Shipley.** El Capitan High School.

**LB260** Histidine Kinase CheA: You Spin Me ‘Round. **C. Chou, R. Martyr, D. Barila, M. Chaney, J. Drewes, I. Hak, H. Harroun, T. Kamenides, M. Lippard, C. Martyr, J. Merrill, T. Mugunga, Z. Neuhard, S. Real, D. Swope, T. Wilkinson, J.J. Falke.** Longmont High School and University of Colorado at Boulder.

**LB261** BRCA2's Role in Homologous Recombination Through Interaction with RAD51. **M. D'Ausilio, A. Beckman, G. Brown, U. Emeghara, F. Ho, E. Malzberg, B. Spellman, K. Tavan, J. Xiao, R. Jensen.** The Pingry School and Yale University.

**LB262** Neuroglobin's Protective Role in Ischemic Stroke. **J. Fangmann.** Greenfield High School.

**LB263** Host Cell-Zika Virus Interaction Determined by Envelope Protein Structure. **A. Fassler, R. Shah, H. Khan, A. Shukla, K. Schultz.** School District of Marshfield and Marshfield High School.

**LB264** “Buzz Off” Zika. **F. Grant, N. Arendt, K. Ducheny, M. Norton, T. Ovsepyan, M. Ruege, H. Wildermuth, N. Silvaggi.** Grafton High School and University of Wisconsin–Milwaukee.

**LB265** RPE65—Essential Visual Cycle Protein. **C. Kaiser, P. Ahn, K. Arnold, S. Bartos, B. Burkle, M. Chang, M. Coury, N. Cowan, N. Dittrich, R. Foster, J. French, T. Gamblin, J. Gorski, M. Hameed, L. Homberg, R. Johnson, S. Khan, E. Lewis, J. Otten, M. Rivera, A. Sabatino, T. Sargent, J. Schimmels, A. Smith, R. Stegeman, D. Strom, J. Strom, B. Tsuji, C. Visaya, J. Yamat, N. Yorke, K. Klestinski, A. Huckenpahler.** Marquette University High School and Medical College of Wisconsin Eye Institute.

- LB266** TolC: An Important Component of Bacterial Efflux Pumps, and Potential Target for Ameliorating Antibiotic Resistance. **E. Kessler, J. Whalen, H. Bradford, V. Chavali, D. Engle, J. Jeng, T. Meier, G. Merchant, S. Narayanan, A. Song, A. Sundar, E. Van Lieshout.** Center for Advanced Professional Studies (CAPS)
- LB267** Inhibition of  $\delta$ -Opioid Receptors. **P. Krukar, K. Burmeister, E. Davis, L. Dragseth, A. Gent, A. Janssen, S. Koch, M. Shaheer, S. Panta, K. Brown, C.W. Cunningham.** Whitefish Bay High School and Concordia University Wisconsin.
- LB268** Structural and Evolutionary Insights from the Reconstructed Ancestral Plant Hydroxynitrile Lyase, HNL1. **A. Peterson, L. Bunday, E. Bussman, S. Chadha, J. Ridler, E. Romashkova.** Minnetonka High School.
- LB269** NMDAR Helps You Think, So Please Reconsider That Extra Drink. **D. Sampe, G. Block, T.J. Davis, N. Dong, J. Freuler, M. Mietkowski, T.J. Rowney, N. Stoehr, R.W. Peoples.** Brown Deer High School and Marquette University.
- LB270** Coughing Up a Cure for Whooping Cough with Pertussis Toxin. **K. Tiffany, A. Arnholt, S. Arnholt, D. Arzumanyan, L. Arzumanyan, A. Butt, A. Houghtaling, L. Ketelhohn, J. Levy, N. Miller, N. Minerva, E. Remington, B. Tiffany, J. Wankowski, J. Barbieri, M. Zuverink.** Cedarburg High School and Medical College of Wisconsin.
- LB271** The Relationship Between Size, Structure, and Function in Erythrocytes. **J. Cabey, A. Arroyo, A. Babu Sai, S. Corpuz, E. Hoggard, K. Huang, Q. Meng, A. Pidara, I. Rehman, C. Sabah.** Lincoln Park High School and Chicago Public Schools.
- LB275** Effect of a High Protein, High Fiber Dietary Supplement on Subjective Appetite Ratings and Subsequent *Ad Libitum* Energy Intake in Overweight Men and Women. **M. Sharafi, M. Wilson, N. Alamdari, E.L. Glynn.** Beachbody, LLC.
- LB276** What About Tomato Intake and the Regulation of Inflammation? **M.F. Godoy, N.H. Slobodianik, E.M. Insani.** Food Technology Institute, INTA, Argentina, School of Pharmacy and Biochemistry, Argentina, and Biotechnology Institute, INTA, Argentina.
- LB277** Nitrate and Nitrite Exposure Affect Cognitive Behavior and Oxygen Consumption During Exercise in Zebrafish. **N.G. Hord, L. Beaver, E. Axton, L. Truong, L. St. Marie, R. Tanguay, C. Logan, J. Choi, S. Spagnoli, J.F. Stevens.** Oregon State University.
- LB278** The Effect of *Pueraria lobata/Rehmannia glutinosa* on Improvement of Insulin Resistance and Lipid Metabolism in Ovariectomized Rats. **H.Y. Jeong, Y.J. Kim, H. Kim, W.J. Lee, O. Kwon.** Ewha Womans University, Republic of Korea.
- LB279** Effects of a 3-Week Moderate Calorie Restriction Intervention on Cerebral White Matter Connectivity in Subjects with Obesity. **C.N. Kahathuduwa, T. Davis, M. O'Boyle, M. Binks.** Texas Tech University, and University of Peradeniya, Sri Lanka.
- LB280** Transient Receptor Potential Canonical Channel-1 (TRPC1) KO Mice That Exercise Are Protected from High-Fat Diet-Induced Obesity and Type 2 Diabetes Risk. **D. Krout, A. Schaar, B.B. Singh, J.N. Roemmich, K.J. Claycombe-Larson.** US Department of Agriculture—Agricultural Research Service Grand Forks Human Nutrition Research Center and University of North Dakota.

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## Nutrition

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### ASN Variability in Responses to Diet and Food

- LB272** Comparing the Impact of Saturated Fatty Acids from Different Dairy Sources on the Proteome of High Density Lipoproteins. **D. Bernic, D. Brassard, A. Droit, F. Roux-Dalvai, M. Tessier-Grenier, E. Rajendiran, Y. She, V. Ramprasath, I. Gignoux, É. Levy, A. Tremblay, P. Jones, P. Couture, B. Lamarche.** Laval University, Canada, CHU de Quebec Research Center, Canada, University of Manitoba, Canada and CHU Sainte-Justine Research Center, Canada.
- LB273** Laxative Effect of Lotte Probiotic Chocolat<sup>®</sup> on Loperamide-Induced Constipation in Rats. **J. Eor, P-L. Tan, S-M. Yoon, D-H. Choi, S.H. Kim.** Korea University, Republic of Korea, and Lotte Research and Development Center, Republic of Korea.
- LB274** Effect of 8-Hour Time Restricted Feeding on Body Weight in Obese Subjects. **K. Gabel, K.K. Hoddy, N. Haggerty, K.A. Varady.** University of Illinois at Chicago.
- LB281** Prophylactic Effect of Lotte Probiotic Chocolat<sup>®</sup> Administration on Loperamide-Induced Constipation in Rats. **C-S. Lee, P-L. Tan, S-M. Yoon, D-H. Choi, S-H. Kim.** Korea University, Republic of Korea, and Lotte Research and Development Center, Republic of Korea.
- LB282** Genetic and Epigenetic Signature Identifies Individuals with Elevated Response to Vitamin B12 Supplementation. **J. Nicodemus Johnson, M. Brown.** Usana Health Sciences.
- LB283** A Randomized, Controlled, Crossover Trial to Assess the Acute Cognitive, Appetite, Glucose and Insulin Responses to Milk and Juice Beverages in Men and Premenopausal Women. **I. Edirisinghe, O.M. Palacios, B. Burton-Freeman, M.B. Spitznagel, K.M. Nieman, M. Bell, K.C. Maki.** Illinois Institute of Technology, Midwest Biomedical Research—Center for Metabolic and Cardiovascular Health, Kent State University and Great Lakes Clinical Trials.
- LB284** Evaluation of a Reduced Sampling Schedule for Assessment of Pancreatic Beta-Cell Function with the Intravenous Glucose Tolerance Test During a Dietary Intervention. **O.M. Palacios, K.M. Nieman, C.M. Cook, K.C. Maki.** Midwest Biomedical Research—Center for Metabolic and Cardiovascular Health and Biofortis Innovation Services.

**LB285** Whole Egg Increases High Density Lipoprotein-Cholesterol (HDL-C) Levels in Overweight Postmenopausal Women. **L. Sawrey-Kubicek, C. Zhu, A. Stevens, J. Randolph, R. Sacchi, F. Steinberg, A.M. Zivkovic.** University of California at Davis.

**LB286** Next-Generation Nutritional Screening. **B.W. Smith, G.S. Hotamisligil.** Harvard T.H. Chan School of Public Health.

**LB287** Consumption of *Bifidobacterium animalis* subsp. *lactis* BB-12 Reduces TNF- $\alpha$  Secretion from LPS-Stimulated PBMCs, but Does Not Alter Serum TNF- $\alpha$  Levels. **H.L. VanEvery, H. Meng, J.A. Flemming, Y. Lee, Z. Ba, E.J. Furumoto, R.F. Roberts, P.M. Kris-Etherton, C.J. Rogers.** The Pennsylvania State University.

**LB288** Physicochemical Properties, Microstructure and Probiotic Survivability of Symbiotic Rice Yogurt Using Polymerized Whey Protein as Gelation Agent. **M. Guo, C. Wang, D. Li.** Jilin University, People's Republic of China, and University of Vermont.

**LB289** Validation of a Macronutrient Mixed Challenge Beverage for Personalized Nutrition Applications Using a Reduced Sampling Period. **B.L. Winters, J.C. Anthony, A. Remensperger, A. Boorsma, T. Vandenbroek, K. Maki.** Winters Nutrition Associates, LLC, Habit LLC, TNO, Netherlands and Midwest Biomedical Research.

**LB290** Regional Dietary Adaptation of *FADS* Genes in Humans: Molecular Mechanism and Functional Consequences. **K. Ye, F. Gao, A. Keinan.** Cornell University.

**LB291** A Prospective Evaluation of a Commercial Weight Loss Program On Body Weight and Body Circumferences in Overweight/Obese Men and Women. **S. Habowski, T. Ziegenfuss, J. Sandrock, B. Raub, W. Kedia, H. Lopez.** Center for Applied Health Sciences.

**LB292** A Prospective Evaluation of a Commercial Weight Loss Program in Overweight/Obese Adults. **S. Habowski, H. Lopez, J. Sandrock, B. Raub, W. Kedia, T. Ziegenfuss.** Center for Applied Health Sciences.

### ASN Nutrition on Healthy Growth, Development and Reproduction

**LB293** Maternal Rumen-Protected Methionine Supplementation During Late-Pregnancy Affects Calf Development and Growth During Early Postnatal Life. **A.S.M. Alharthi, F. Batistel, C. Parys, A. Helmbrecht, J. Loor.** University of Illinois, UIUC and Evonik Nutrition & Care GmbH, Germany.

**LB294** Cortical Bone Development Is Lower in Ad36 Seropositive Versus Seronegative Adolescents: A 5-Year Prospective Study. **S.L. Belcher, J.M. Kindler, E.M. Laing, R.A. Tripp, R.D. Lewis.** The University of Georgia.

**LB295** Nutrient Intake and Growth of Infants Enrolled in the Donor Milk for Improved Neurodevelopmental Outcomes (GTA-DoMINO) Trial: Comparison to Clinical Targets. **R. Bishara, D. Ng, M. Asbury, E. Ng, S. Unger, S. Gibbins, D.L. O'Connor.** SickKids Research Institute, Canada, Sunnybrook Health Sciences Centre, Canada, University of Toronto, Canada, Mount Sinai Hospital, Canada, The Hospital for Sick Children, Canada and Trillium Health Partners, Canada.

**LB296** Effects of Maternal High Folate and Low Vitamin B<sub>12</sub> on DNA Methylation in Cord Blood Mononuclear Cells. **A. Fard, L. Plumptre, S. Tammen, M. Akbari, K. Sohn, S. Masih, C. Visentin, A. Ly, H. Berger, R. Croxford, S-W. Choi, D. O'Connor, Y. Kim.** St. Michael's Hospital, Canada, University of Toronto, Canada, and Tufts University.

**LB297** Do Post-Menarcheal Anthropometric Measures of Body Fat Better Predict Late Adolescent Lipid Levels Than Pre-Menarche Values? **S.E. Ferreira, M.R. Singer, M L. Bradlee, S.R. Daniels, L.L. Moore.** Boston University School of Medicine and University of Colorado School of Medicine.

**LB298** Gupan Extracts Increased the Expression Level of Genes Related to Growth Hormone. **M-H. Kang, H-S. Moon.** Hoseo University, Republic of Korea.

**LB299** Estimation of Growth Model Parameters for Mini Pig Breeds. **H. Jo, S.C. Lee, D.C. Kim, B.G. Kim.** Konkuk University, Republic of Korea, Cronex Co., Ltd., Republic of Korea, and Jeju Special Self-Governing Province Livestock Promotion Agency, Republic of Korea.

**LB300** Standardized Height for Age Was Positively Associated with Nutritional Adequacy and Food Intakes of U.S. Children in NHANES 2007–2014. **K. Kim, D. Kim, H. Noh, M. Melough, O. Chun.** University of Connecticut, BOM Institute of Nutrition and Natural Medicine, Republic of Korea, Korea National Open University, Republic of Korea, and International Agency for Research on Cancer, World Health Organization, France.

**LB301** Pentosidine, an Advanced Glycation End Product, Is a Negative Predictor of Cortical Bone Geometric Endpoints in Children. **J.M. Kindler, W. Liu, J. Dain, E. Laing, R.M. Lewis.** The University of Georgia and The University of Rhode Island.

**LB302** The Association of Cord Blood 25(OH)D Levels with Neonatal Body Size and Composition: The Healthy Start Study. **H.J. Koeppen, K. Kalata, A.V. Stamatoiu, B.M. Ringham, D.H. Glueck, J.M. Norris, D. Dabelea, K.A. Sauder.** University of Colorado Anschutz Medical Campus.

**LB303** Vitamin D, Calcium Intakes, Physical Activity and Association with Bone Mineral Content Among Adolescents in Malaysia. **H.A. Abdul Majid, S. Abu Aziz, N. Al Sadat, T.T. Su, N.A. Mohd, M Y. Jalaludin.** University of Malaya, Malaysia, and Harvard University.

**LB304** Determinants of Gestational Weight Gain: The Impact of Diet, Genes, and Energy Expenditure. **Y. Meng, S. Groth, P. Stewart.** University of Rochester.



**LB305** Associations of Delivery Mode and Labor with Measures of Childhood Adiposity: Findings from Project Viva. **N.T. Mueller, S.L. Rifas, J. Chavarro, E. Oken, M-F. Hivert.** Johns Hopkins University and Harvard Medical School.

**LB306** Calorie Restriction Facilitates Aging-Related Muscle Loss in the Aged Mice. **S.E. Park, H.Y. Chung, Y.J. Park.** Ewha Womans University, Republic of Korea, Pusan National University, Republic of Korea.

**LB307** Relationship of Feeding Practices with Sleep Duration on Infant Weight at 12 Months. **K.B. Vander Wyst, C.M. Whisner, M.E. Petrov, M.R. Gallagher, E. Reifsnider.** Arizona State University and University of Texas Health Science Center at Houston.

**LB308** Prenatal Metabolism Tracking: A Case Series Report of the Portable Breeding Device. **K. Vander Wyst, C.M. Whisner.** Arizona State University.

### ASN Disease Prevention, Progression and Treatment

**LB309** Dietary Pattern's Association with Incident Parkinsonism and Progression of Parkinsonian Signs with Aging. **P. Agarwal, Y. Wang, A.S. Buchman, M.C. Morris.** Rush University Medical Center.

**LB310** Metabolic Profiling Reveals Reprogramming of Lipid Metabolic Pathways in Treatment of Polycystic Ovary Syndrome with 3-Iodothyronamine. **F.M. Assadi-Porter, E. Selen Alpergin, Z. Bolandnazar, M. Sabatini, M. Rogowski, G. Chiellini.** University of Wisconsin–Madison, Metresponse LLC, University of Wisconsin, University of Pisa, Italy and University of Alabama at Birmingham.

**LB311** Yogurt Intake Is Associated with Higher Weight Status Among Female Adolescents. **D. Azarmanesh, L. Troy.** University of Massachusetts Amherst.

**LB312** Safety and Efficacy of a Novel KD120 MEC Multi-Enzyme Complex (N-Sorb®) in Human Volunteers. **B.W. Downs, S.W. Kushner, M. Bagchi, A. Swaroop, D. Bagchi.** VNI, Inc., Dr. Herbs LLC, Cepham Research Center and University of Houston College of Pharmacy.

**LB313** Safety and Free Testosterone Boosting Efficacy of a Novel *Curculigo orchioides* Extract (Blamus™) in Male Rats. **D. Bagchi, A. Swaroop, M. Bagchi, H.G. Preuss.** Cepham Research Center and Georgetown University Medical Center.

**LB314** Reduced Whole Grain Consumption Predicts Obesity-Related Aortic Stiffness. **M.S. Campbell, B.S. Fleenor.** University of Kentucky.

**LB315** Higher Serum Carotenoid Concentration Associated with a Lower Incidence of Metabolic Syndrome in Middle-Aged and Elderly Chinese Adults. **Y. Chen, C. Wang, R. Qiu, G-D. Chen, Y. Cao, F-F. Zeng.** Sun Yat-sen University, People's Republic of China.

**LB316** The Effect of Prepartum Adiposity and Lipolysis on Gestational and Postnatal Oxylipids Biosynthesis. **G.A. Contreras, C. Strieder-Barboza, J. de Souza, J. Gandy, A.L. Lock, L.M. Sordillo.** Michigan State University.

**LB317** Ethnic Variations in the Prevalence of Sarcopenia and Sarcopenic Obesity in Older Adults. **K. Du, S. Goates, M. Arensberg, S. Pereira, T. Gaillard, R. Hegazi.** Abbott Nutrition, University of Illinois at Urbana-Champaign and University of Cincinnati.

**LB318** Corn/Bean Snack Consumption Lowered Serum Lipid Levels and Caused Differential Gene Expression in Liver of C57BL/6 Mice Fed High-Fat Diet. **A. Domínguez-Uscanga, G. Loarca-Piña, E. Gonzalez de Mejia.** Universidad Autónoma de Querétaro, Mexico and University of Illinois.

**LB319** Protective Potential of Anthocyanin Rich Plant Extracts on an *in Vitro* Model of Celiac Disease. **S. Haggard, L. West, E. Gonzalez de Mejia.** University of Illinois.

**LB320** Effects of an Egg-Based, Carbohydrate-Restricted Diet on Body Composition, Fat Distribution, and Metabolic Health in Older Adults with Obesity: Preliminary Results from a Randomized Controlled Trial. **A.M. Goss, B.A. Gower, T. Soleymani, M. Stewart, K. Fontaine.** University of Alabama at Birmingham.

**LB321** The Effects of Mixed Nuts on Lipid Profiles, Glucose, Oxidative Stress, and Antioxidant Capacity in Atherogenic-Diet Fed Rats. **S.L. Groven, C. Corwin, A. Marx, L. Messervy, S. Hooshmand, M. Kern, Y. Lee, M. Hong.** San Diego State University and Kyonggi University, Republic of Korea.

**LB322** Dietary Fiber and the Human Gastrointestinal Microbiota as Predictors of Bone Health. **A.Y. Hou, J.L. Kaczmarek, N.A. Khan, H.D. Holscher.** University of Illinois at Urbana-Champaign.

**LB323** Establishment of Rat Model of Hyperuricemia and Efficacy Evaluation of Positive-Control Drugs. **J. Huo, Y. Lu, H. Yang, S. Ma, W. Cheng, J. Chen, L. Zhang.** West China School of Public Health/Food Safety Monitoring and Risk Assessment Key Laboratory of Sichuan Province, Sichuan University, People's Republic of China, and Analytical and Testing Center of West China School of Public Health, Sichuan University, People's Republic of China.

**LB324** Dietary Prebiotics and Arachidonic Acid (ARA) Modulate Intestinal Injury and Microbial Taxa Following Acute Dextran Sodium Sulfate Induced Colitis in Formula-Fed Piglets. **S.K. Jacobi, L. Xi, C. Maltecca, L. Borst, A. Smith, J. Odle.** The Ohio State University and North Carolina State University.

**LB325** Effects of Tart Cherry Juice on Brachial and Aortic Hemodynamics, Arterial Stiffness, and Blood Biomarkers of Cardiovascular Health in Adults with Metabolic Syndrome. **S.A. Johnson, N. Navaei, S. Pourafshar, S.J. Jaime, N.S. Akhavan, S. Alvarez-Alvarado, N.S. Litwin, M.L. Elam, M.E. Payton, B.H. Arjmandi, A. Figueroa.** Colorado State University, Florida State University, California State Polytechnic University and Oklahoma State University.

- LB326** Longitudinal Study of the Human Gastrointestinal Microbiota Following Fecal Microbiota Transplant (FMT) for *Clostridium difficile* Infections. **O.D. Joseph, S.V. Thompson, A. Bogner, D. Martin, J.J. Farrell, K.S. Swanson, H.D. Holscher.** University of Illinois.
- LB327** Impact of Breast Cancer Diagnosis, Personal Characteristics and Lifestyle Factors on Depressive Symptoms. **M.P. Judge, T. Julian, J. Wu, J. Walter, W.J. Irvin, A. Starkweather.** University of Connecticut, Virginia Commonwealth University and Bon Secours Richmond Community Hospital Cancer Institute.
- LB328** Atractylodes rhizome and Taraxacum Alleviate Colorectal Damage and Inflammation on DSS-Induced Colitis in Mice. **S. Kang, M. Park, O. Kwon.** Ewha Womans University, Republic of Korea.
- LB329** Desensitization of Basal Cell Carcinoma to the Anti-Tumoral Effect of Vitamin D: Role of REDD1. **R. Khasawneh, A. Unnikrishnan, B. Mahmoud, I. Hamzavi, A.R. Heydari.** Central Michigan University, University of Oklahoma, Henry Ford Hospital, Wayne State University and Karmanos Cancer Institute.
- LB330** Anti-Inflammatory Effects of Zerumbone on Chronic Inflammation Models in Differentiated Human THP-1 Monocytes Induced by Lipopolysaccharide. **M. Kim, J-M. Yun.** Chonnam National University, Republic of Korea.
- LB331** G9a, an Epigenetic Modifier, Affects Cell Viability and Serine-Glycine Synthesis Pathway by Altering ATF4 Expression. **H. Kim, Y.J. Park.** Ewha Womans University, Republic of Korea.
- LB332** Zerumbone Suppresses High Glucose- and Lipopolysaccharide-Induced Pro-Inflammatory Effects Through Regulation of Histone Deacetylase in Differentiated Human THP-1 Monocytes. **A. Kim, J-M. Yun.** Chonnam National University, Republic of Korea.
- LB333** Anti-Lipogenic Effect of Betaine Involves Inhibition of Homocysteine-Induced ER Stress via Upregulation of Betaine-Homocysteine Methyltransferase. **C.W. Ahn, D.S. Jun, Y.C. Kim.** Seoul National University, Republic of Korea.
- LB334** Anti-Inflammatory Dietary Inflammatory Index Scores Are Associated with Lower Glycemic Index Among College Students. **Y. Kim, J. Chen, N. Shivappa, M. Wirth, J. Hebert.** Central Michigan University, Louisiana Tech University, University of South Carolina and Connecting Health Innovations LLC.
- LB335** Intact Sodium Caseinate and a Sodium Caseinate Hydrolysate Have Potential to Resolve Inflammation Through the Cessation of Proinflammatory Signaling. **A. Kirwan, E. Daly, A. B Nongonierma, R. Fitzgerald, H. Roche.** University College Dublin, Ireland and University of Limerick, Ireland.
- LB336** Free, Ethyl- And Methyl- Ester Eicosapentaenoic Acid Inhibit the Proliferation of Human and Murine Colon Cancer Cells *in Vitro*. **E. Pfister, M.A. Lane.** Texas State University.
- LB337** Lutein and Zeaxanthin Supplement Use and Macular Pigment Change over 14 Years in the Second Carotenoids and Age-Related Eye Diseases Study (CAREDS2), an Ancillary Study to the Women's Health Initiative. **T.P. Lawler, Z. Liu, C. Blomme, R. Hammond, R. Gangnon, E. Johnson, R. Wallace, L. Tinker, A. Millen, B. Wooten, B. Smollon, J. Mares.** University of Wisconsin-Madison, University of Georgia, Tufts University, University of Iowa College of Public Health, Fred Hutchinson Cancer Research Center, University at Buffalo, Macular Metrics and Brown University.
- LB338** Epiregulin Improves Glucose Uptake by Mouse Preadipocyte and Ameliorates Glucose Intolerance in *ob/ob* Mice. **A. Lee, R. Yasmeen, O. Ziouzenkova.** The Ohio State University.
- LB339** Hesperetin Inhibits Pro-Inflammatory Cytokine Secretion Induced by Lipopolysaccharide in Differentiated Human THP-1 Monocytes Under Hyperglycemic Conditions. **A. Lee, J-M. Yun.** Chonnam National University, Republic of Korea.
- LB340** Tartary Buckwheat Extract Reduces Lipid Accumulation and Inflammation in 3T3-L1 Adipocytes. **E. Lee, M. Lee, Y. Shin, S. Jung, S. Kim, S. Park, M. Yun, S. Lee, J. Sohn, H. Yu, Y. Lee, Y. Kim.** Ewha Womans University, Republic of Korea, SK Bioland Co. Ltd., Republic of Korea, and The University of Suwon, Republic of Korea.
- LB341** *Oldenlandia diffusa* Extracts Exert Anti-Tumor Effects on Human Ovarian Cancer Cells via an Epigenetic Regulator, KDM1B. **Y. Lee, J. Lim, J. Joo, S. Park, Y. Park.** Ewha Womans University, Republic of Korea, Wonkwang University, Republic of Korea, and Woosuk University, Republic of Korea.
- LB342** Vascular Health Effects of a Plant Extract Mixture of *Phellinus baumii* and *Salvia miltiorrhiza* Bunge on Postprandial Platelet Hyperactivity in Healthy Subjects: A Randomized, Double-Blind, Placebo-Controlled Crossover Trial and Systematic Approach. **Y. Lim, Y.J. Kim, O. Kwon.** Ewha Womans University, Republic of Korea, Ewha Womans University School of Medicine, Republic of Korea.
- LB343** An Updated Meta-Analysis of Cranberry and Recurrent Urinary Tract Infections in Women. **Z. Fu, D. Liska, D. Talan, M. Chung.** Tufts University School of Medicine, Biofortis Research and University of California at Los Angeles School of Medicine.
- LB344** A Prospective Investigation of Coffee Drinking and Bladder Cancer Incidence in the United States. **E. Loftfield, N.D. Freedman, M. Inoue-Choi, B.I. Graubard, R. Sinha.** National Cancer Institute.

- LB345** Which Handgrip Strength Cut-Offs Best Predict Low Physical Function in Older Adults? **C.H. Murphy, A.M. McMorrow, K. Mc Elroy, H. Cummins, M.J. McGowan, S. Rafferty, G. De Vito, S.N. McCarthy, C.A. Corish, B. Egan, H.M. Roche.** University College Dublin, Ireland, Teagasc Food Research Centre, Ireland, Health Service Executive Community Healthcare Organisation 6, Ireland, and Health Service Executive Community Healthcare Organisation 9, Ireland.
- LB346** Effects of Fresh Pear Consumption on Biomarkers of Cardiometabolic Health in Middle-Aged and Older Adults with Metabolic Syndrome. **N. Navaei, S. Pourafshar, N.S. Akhavan, E.M. Foley, N.S. Litwin, K.S. George, S.C. Hartley, M.L. Elam, S. Rao, B.H. Arjmandi, S.A. Johnson.** Florida State University, Colorado State University and California State Polytechnic University.
- LB347** *In Vitro* Investigations of the Antidiabetic Action of Ginger (*Zingiber officinale*). **P.O. Obih, J.A. Obih, A. Brown, X. Day.** Xavier University of Louisiana and Southern University at New Orleans.
- LB348** Dietary Patterns Associated with Incidence of Metabolic Syndrome and Its Components. **M. Perez-Rodriguez, P. Ramirez-Palacios, J. Salmeron, J. Talavera.** Instituto Mexicano del Seguro Social (IMSS), Mexico.
- LB349** Caloric Restriction Protects Against Hepatic Oncogenesis. **J. Ploeger, D. Mashek.** University of Minnesota.
- LB350** Effect of Home-Based Aerobic Exercise Training on Quality of Life in Multiple Sclerosis. **B. Saed, G. Griffith, S. Wee, R. Klaren, R. Motl, T. Baynard, B. Fernhall.** Integrative Physiology Laboratory, University of Illinois at Chicago, Exercise Neuroscience Research Laboratory, University of Illinois at Urbana-Champaign, University of Alabama at Birmingham.
- LB351** Rheological Study of Chickpea-Wheat Flour Blends for Making Pan and Flat Breads. **J.S. Sidhu, T.A. Zafar, A. Al-Mussallam, M. Ali.** Kuwait University, Kuwait.
- LB352** Regulation of Notch Signaling Pathway by Diallyl Trisulfide in Pancreatic Cancer Cells. **S.D. Stan, Y. Du.** Purdue University.
- LB353** Eligibility of Rheumatoid Arthritis Patients for a Phase 1b Clinical Trial Evaluating Turmeric Supplementation. **M. Strom, C. Alfafara, J. DeSalvo, M. McCallum, L. Hopkins, T. Pace, S. Chow, D. Levinsky, E. Ruderman, D. Billheimer, J. Funk.** University of Arizona and Northwestern University.
- LB354** Turmeric Dietary Supplement-Induced Autoimmune Hepatitis: A Case Report. **J. Funk, C. Alfafara, S. McEvoy, M. Strom, A. Lukefahr.** University of Arizona.
- LB355** Inhibition of H1299 Human Lung Cancer Cell Proliferation and Survival by Carnosic Acid Is Associated with Akt Inhibition and AMPK Activation. **E.L. Tsiani, J. Moore.** Brock University, Canada.
- LB356** Preventing Health Disparities During Pregnancy Through Vitamin D (VitD) Supplementation: Preliminary Results of a Randomized Controlled Trial. **C.L. Wagner, W. Wei, J.R. Shary, M.D. Ebeling, E. Garrett-Mayer, S.N. Taylor, J.E. Baatz, D. Newton, R. Newman, J. Mulligan, B.W. Hollis.** Medical University of South Carolina and Yale School of Medicine.
- LB357** The Effects of Vitamin D Binding Protein (VDBP) Genotypes on Circulating 25(OH)D and VDBP Levels During Pregnancy. **C.L. Wagner, S.K. Brady, D. Newton, J.E. Baatz, J.R. Shary, B.W. Hollis.** Medical University of South Carolina and Clemson University.
- LB358** Bioactivity-Guided Isolation and Identification of Anti-Adipogenic Compounds from *Sanguisorba officinalis* L. **Z. Wang, S.H. Im, S.S. Lim, O-H. Lee, I-J. Kang.** Hallym University, Republic of Korea, and Kangwon National University, Republic of Korea.
- LB359** The Relationship Between Insulin Resistance, Antioxidants, and Eye Blink Startle Reflex During International Affective Picture System Presentation. **T. Wolf, A. Willette.** Iowa State University and University of Iowa.
- LB360** A Web-Based Binge Eating Disorder Intervention Program Reduced Eating Disorder Risks in Overweight or Obese Females—A Pilot Study. **Z. Yu, J. Snyder, K. Stuart, J. Wilburn, H. Pudwill, B. Williams, K. Cortazzo.** University of North Florida, Katie Stuart Coaching and Counseling, Jen Wilburn Coaching and Counseling and Balanced Nutrition of Jacksonville.

### ASN Nutrition-Related Behaviors

- LB361** The Influence of Mineral Status on the Academic Performance. **D. Assimiti.** California Prep International School, Thailand.
- LB362** Examining Normative Values in Wearable Device Bite Count Data from a One-Week Free-Living Intervention. **J. Beatty, G. Mayette, G. Greene, K. Melanson.** The University of Rhode Island.
- LB363** Eating Compared to Skipping Breakfast Has No Discernible Benefit for Obesity-Related Anthropometrics: Systematic Review and Meta-Analysis of Randomized Controlled Trials. **M.M. Bohan Brown, J.E. Milanese, D.B. Allison, A.W. Brown.** Clemson University and University of Alabama at Birmingham.
- LB364** Determining the Association Between Child Dietary Behaviors and Weight Status. **M. Deihns, K.S. Keim, M.C. Mullen, D.C. Sowa, K. Lui.** Rush University.
- LB365** Natural Product Supplement Use for Rheumatoid Arthritis Self-Management in the United States: A Literature Review. **J. DeSalvo, M. Strom, K. Haiber, L. Feng, A. Hopkins, J. Funk.** University of Arizona and Texas A&M University.

**LB366** Assessment of Dietary Intervention Compliance of Subjects Participating in an Ongoing Randomized Controlled Trial. **J.R. Dietrich, J.L. Kaczmarek, G.E. Reeser, N.A. Khan, H.D. Holscher.** University of Illinois at Urbana-Champaign.

**LB367** Anti-Inflammatory Effects of a Polyphenol-Rich Spearmint Extract in a Rat Paw Edema Model. **B. Fonseca, Y. Zhu, J. Lasrado.** Kemin Human Nutrition and Health.

**LB368** Dietary Attitudes and Behaviors of Male Veterans with Multiple Sclerosis (MS). **D. Hadidi, L. Brenner.** Veterans Integrated Service Network 19 and University of Colorado Anschutz Medical Campus.

**LB369** Effect of the Sleep-Promoting by *Polygonatum sibiricum* Rhizome Extracts in Vertebrate Models. **K. Jo, H.D. Kim, S. Kim, S.H. Han, H-S. Choi, H.J. Suh.** Korea University, Republic of Korea, and Seoul Women's University, Republic of Korea.

**LB370** Effect of an Educational Group Intervention in Self-Care Behavior for Patients with Type 2 Diabetes on HbA1c and Postprandial Capilar Glucose. **J. Juarez Castillo, C. Avendaño, A. Parra Carriedo, E.I. Escalante Izeta.** Centro Graber, Mexico and Universidad Iberoamericana, Mexico.

**LB371** Stress Level Related to Dietary Intake and Metabolic Syndrome in Middle Aged Women in Urban Area. **H. Ko, S. Byeon, Y. Shin, B. Kang, M. Doo, S. Lee, Y. Kim.** Ewha Womans University, Republic of Korea, and Ewha Graduate School of Converging Clinical and Public Health, Republic of Korea.

**LB372** High Amounts of Exercise Are Associated with an Increased Preference for High-Fat vs. Low-Fat Food Choices. **K. Koehler, S. Beckford, J. Stevens.** University of Nebraska–Lincoln.

**LB373** Effect of Different Concentration of Papaya Seed Extract on the Stability of Watermelon Juice. **F.M. Kujore, I.O. Banjoko.** Institute of Chartered Chemists of Nigeria, Nigeria, and College of Technology, Nigeria.

**LB374** Eating Indicators in Women with Polycystic Ovary Syndrome and Weight-Matched Controls. **M.A. Maher, A.M. Sanders.** University of Wisconsin–La Crosse.

**LB375** Heat Treatment of Fibers Used as Growth Supplement for *Lactobacillus acidophilus* and *Lactobacillus rhamnosus*. **A. Santos, A. Santos, C. Gillen, F. Santos.** Adventist University of Health Sciences.

**LB376** Influence of Lifestyle Habits and LDS Religion on Metabolic Syndrome Parameters in College Students at Weber State University. **W.F. Soule, H. Jenkins, D. Aguilar-Alvarez.** Weber State University.

**LB377** Determining the Association of Youth's Physical Activity and Sedentary Behaviors with Weight Status. **E.M. Taylor, K.S. Keim, M.C. Mullen, D.C. Sowa, K.J. Lui.** Rush University.

**LB378** Delta Healthy Sprouts: Participants' Postnatal Diet Quality and Food Habits. **J. Thomson, L.M. Tussing-Humphreys,**

**M.H. Goodman, A.S. Landry.** US Department of Agriculture–Agricultural Research Service, University of Illinois at Chicago and University of Central Arkansas.

### **ASN Food Supply and Environment**

**LB379** Variation in Food Group Availability and Nutrient Composition Across Food Pantry Inventories. **C.J. Andersen, N. Ragonesi, L. Cintron-Rivera, K. Murray, B. Cerrito, J. Melville, L. Dupree, M. McCabe.** Fairfield University and The Council of Churches of Greater Bridgeport.

**LB380** Grocery Purchase Quality Index-2016 Scores Are Moderately Correlated with Healthy Eating Index-2010 Scores in the Food Acquisition and Purchase Survey, 2012–13. **P.J. Brewster, P.M. Guenther, C.M. Durward, J.F. Hurdle.** University of Utah and Utah State University.

**LB381** Method Validation and Assessment Antioxidant Activity of Rosemary Extract. **S-H. Choi, D-Y. Kim, J-M. Kim, J-S. Lee, S-I. Choi, T-D. Jung, B-Y. Cho, J-H. Lee, O-H. Lee.** Kangwon National University, Republic of Korea.

**LB382** Kefir Growth in Different Culture Media. **M.H. De Oliveira, B.G. Ferrari, F. Becker, J.B. Silva, A.A. Santos Jr., D.C. Duran.** Federal University of ABC, Brazil and Faculdades Integradas Coração de Jesus, Brazil.

**LB383** Greenhouse Gas Emissions and Irrigation Water Use in the Production of Pulse Crops in the United States. **D.I. Gustafson.** Real Whirlwind, LLC.

**LB384** Diet Quality of Dishes Differs by Preparation Location in Hunan Province, China. **X. Jia, S. Du, H. Wang, M.A. Mendez, B. Popkin.** National Institute for Nutrition and Health, Chinese Center for Disease Control and Prevention, People's Republic of China, and University of North Carolina.

**LB385** Geography- and Host Physiology-Dependent Variations in Leaf-Associated Bacterial Community of Field-Grown Broccoli. **M-S. Kim, E-J. Park.** Kyung Hee University, Republic of Korea, and Jeju National University, Republic of Korea.

**LB386** Environmental Impacts of Mixed Dishes: A Case Study on Pizza. **K.S. Stylianou, V.K. Nguyen, V.L. Fulgoni III, O. Jolliet.** University of Michigan, School of Public Health, University of Michigan, Medical School, Nutrition Impact, LLC.

**LB387** Comprehensive Assessment of Human Health Impacts and Benefits of Fruits and Vegetables in a LCA Context. **K.S. Stylianou, P. Fantke, V.L. Fulgoni III, O. Jolliet.** University of Michigan, School of Public Health, Technical University of Denmark, Denmark, and Nutrition Impact, LLC.

**ASN Vitamins, Minerals, and Bioactives**

- LB388** Soy Protein Nanoemulsions Improve Stability and Bioavailability of Vitamin D. **N.W. Alruwaili, E.C. Lopez, S. Gaur, H. Feng, N.J. Engeseth, J.E. Andrade.** University of Illinois at Urbana-Champaign.
- LB389** Novel Vitamin D-Nanoemulsion Improves Testicular Function of Vitamin D Deficient Rats. **N.W. Alruwaili, M.M. A. Abulmeaty, A.M. Almajwal, M.F. Elsadek, S. Razak, J.E. Andrade.** King Saud University, Saudi Arabia, University of Illinois at Urbana-Champaign and Zagazig University, Egypt.
- LB390** Effect of Enteral Docosahexaenoic Acid on Retinopathy of Prematurity During Their Hospital Stay. **M. Bernabe-Garcia, P. Dominguez-Vallejo, L. Cruz-Reynoso, A. Villavicencio-Torres, R. Villegas-Silva, P. Inda-Icaza.** Instituto Mexicano del Seguro Social, Mexico, Hospital Infantil de Mexico, Mexico and Anahuac University, Mexico.
- LB391** Polysaccharide Lentinan Extracted from the Stipe of *Lentinus edodes* Mushroom Exerts Anticancer Activities Through the Transcriptional Regulation of Cell Cycle Progression and Metastatic Markers in Human Colon Cancer Cells. **Y. Wang, G. Xu, X. Tang, H. Chen.** Agricultural University of Hebei, People's Republic of China, and University of Illinois at Urbana-Champaign.
- LB392** Choline Composition in Breast Milk—A Systematic Review and Meta-Analysis. **M.Y. Chen, R. Northington, J. Yan.** Nestlé Nutrition Research.
- LB393** Regulation of Folate-Mediated One-Carbon Metabolic Kinetics by Glycine Supply. **E.I. Chiang, Y-H. Huang.** National Chung Hsing University, Taiwan.
- LB394** Geranylgeraniol Suppresses the Expression of Adipogenic Genes and the Differentiation of Murine 3T3-F442A and 3T3-L1 Preadipocytes. **M. Elfakhani, S. Yount, H. Mo.** Georgia State University.
- LB395** An Evaluation of a Multi-Strain Probiotic Supplement on General Wellness in Healthy Adults: A Randomized, Double-Blind, Dose-Response Study. **A. Fatani, A. Ford, W. Dahl, T. Tompkins, S. Girard, M. Christman.** University of Florida and Lallemand Health Solutions, Canada.
- LB396** Dietary Supplements and Nutritional Approaches Used for Rheumatoid Arthritis Self-Management. **R. Groff, M. Strom, L. Hopkins, L. Feng, A. Hopkins, J. Funk.** University of Arizona and Texas A&M University.
- LB397** Identification of Phytochemicals in Muscadine Pomace and Their Anti-Inflammatory Activities on RAW 264.7 Murine Macrophages. **B. Zhao, L. Gu.** University of Florida.
- LB398** Anthocyanin and Prebiotic Impact on Intestinal Environment in Obese Male and Female Subjects. **S.N. Hester, A.F. Mastaloudis, R. Gray, M. Evans, S.M. Wood.** Nu Skin Enterprises and KGK Synergize Inc., Canada.
- LB399** Effects of Folic Acid and 5-Methyltetrahydrofolate Supplementation on Folate Metabolism and One-Carbon Transfer Reactions in a Mouse Model. **D. Im, N. Bloemen, K-J. Sohn, R. Croxford, Y-I. Kim.** St. Michael's Hospital, Canada and University of Toronto, Canada.
- LB400** Antioxidant and Immune-Modulatory Effects of *Aloe vera* Decolorized Leaf Juice vs. Inner Leaf Juice. **C. Ingles, K.F. Benson, G.S. Jensen, T. Smillie, I.G. Tornadu.** Herbalife, NIS Labs and Herbalife International Argentina, Argentina.
- LB401** The Influence of Dietary Supplementation of Bacteriophages on Energy and Nutrient Digestibility and Intestinal Microbiota of Pigs. **H. Jo, E.B. Kim, G.G. Han, B.G. Kim.** Konkuk University, Republic of Korea, Kangwon National University, Republic of Korea, and Seoul National University, Republic of Korea.
- LB402** Dietary Melamine Accumulates in the Longissimus Dorsi Muscle and Internal Organs of Pigs. **K.R. Park, B.G. Kim.** Konkuk University, Republic of Korea.
- LB403** Prediction Equations for Gross Energy in Feed Ingredients. **A.R. Son, B.G. Kim.** Konkuk University, Republic of Korea.
- LB404** Variation of Energy and Nutrient Composition in Oilseed Meals from Different Countries. **A.R. Son, H. Jo, B.G. Kim.** Konkuk University, Republic of Korea.
- LB405** Long-Term Feeding of an In-House Prepared High-Fat Diet to Leptin-Deficient Mice. **K.R. Park, H. Jo, B.G. Kim.** Konkuk University, Republic of Korea.
- LB406** Alpha-Lipoic Acid Inhibits Expression of Monocyte Chemoattractant Protein-1 in *Helicobacter pylori*-Infected Gastric Epithelial Cells. **S.Y. Kyung, J.W. Lim, H. Kim.** Yonsei University, Republic of Korea.
- LB407** Effect of Leaf Extracts of *Dendropanax morbifera* on Selected Probiotics and Pathogenic Bacteria. **Y-H. Lee, J.Y. Lee, J.W. Kim, Y.J. An.** University of Suwon, Republic of Korea.
- LB408** Comparison of Adipocyte Browning Effects of White Tea, Oolong Tea, Green Tea, and Black Tea Water Extracts Using 3T3-L1 Adipocyte. **S.G. Lee, H.W. Kang.** North Carolina Agricultural and Technical State University.
- LB409** Effect of Aplysin on Intestinal Barrier and Lipid Metabolism of Rats Exposed by Ethanol and Iron. **H. Liang, Y. Ma, R. Li, A. Ma.** Qingdao University, People's Republic of China.
- LB410** Effect of Folate Status on High-Fat Diet-Induced Obese Mice with Chronic Aristolochic Acid Nephropathy. **B. Lin, X. Koh, C. Wu, H. Huang.** National Taiwan University, Taiwan.
- LB411** Effect of Excess Iron Intake on Growth and Intestinal Inflammatory Injury in Rats. **Y. Ma, Y. Sun, Y. Jiang, A. Ma.** Qingdao University, People's Republic of China.

- LB412** Protective Effects of Mucuna Seed Extract Against Oxidative and Inflammatory Stress in Murine Microglia and Human Neuroblastoma Cells. **H. Ma, S.L. Johnson, N.A. DaSilva, Y. Liu, T. Yuan, N.P. Seeram.** University of Rhode Island, Chinese Academy of Sciences, People's Republic of China.
- LB413** Biological Evaluation of a Novel Red Maple Leaf Extract for Nutraceutical Applications. **H. Ma, W. Liu, J.A. Dain, N.P. Seeram.** University of Rhode Island.
- LB414** Analysis of Serum Ferritin and High Sensitive C Reactive Protein in Patients with Gout. **A. Ma, J. Wei, H. Zhang, D. Wu.** Qingdao University, People's Republic of China, and Tufts University.
- LB415** Novel Form of Curcumin Attenuates Performance Decrements Following Muscle Damaging Exercise. **J.M. Oliver, A. Caldwell, E. Sanders, J. Mitchell, D. Rowlands, M. Purpura, R. Jager.** Texas Christian University, University of Arkansas, Massey University, New Zealand, and Increnovo.
- LB416** Beta-Carotene Inhibits Expression of Tumor Necrosis Factor Receptor-Associated Factor 1 and Hyper-Proliferation in *Helicobacter pylori*-Infected Gastric Epithelial Cells. **Y.C. Park, J.W. Lim, H. Kim.** Yonsei University, Republic of Korea.
- LB417** Ferroportin Deficiency Decreases Manganese Accumulation in the Brain After Olfactory Manganese Exposure. **H. Qutob, L. Goodman, Y.A. Seo.** University of Michigan.
- LB418** Effects of Fish Oil Supplementation During Pregnancy and Post-Weaning on Offspring Metabolic Health. **L. Ramalingam, K. Menikdiwela, L. Allen, S. Scoggin, I. Koboziev, N. Moustaid-Moussa.** Texas Tech University.
- LB419** Modulation of Cerebral Blood Perfusion by Cocoa Flavanols in Aged Mice: Acute and Chronic Effects. **C. Rendeiro, C. Konopka, A. Snyder, H. Pinardo, T.K. Bhattacharya, A. Rodriguez-Mateos, C. Moulton, W.L. Dobrucki, J.S. Rhodes.** University of Illinois at Urbana-Champaign, Kings College London, United Kingdom, and Abbott Nutrition.
- LB420** Inulin-Type Fructans Fiber Supplementation Improves Weight Loss When Used with the USDA's MyPlate Recommendations for Weight Management in Obese Women Attempting to Lose Weight. **Y. Salmean.** College of Life Sciences, Kuwait University.
- LB421** Micronutrient Intake from Food and Supplements in Pregnancy: The Healthy Start Study. **K. Kalata, H.J. Koeppen, A.B. Shapiro, A.V. Stamatiou, D. Dabelea, K. Sauder.** University of Colorado Anschutz Medical Campus.
- LB422** Astaxanthin Mediates Mitochondrial Dynamics in Mice. **X. Shen, Y. Lyu, L. Wu, D. Lin.** Nanjing University of Finance and Economics, People's Republic of China, and Oklahoma State University.
- LB423** Effects of Phosvitin on Intestinal Epithelial Cell Viability Analyzed by Flow Cytometry and Alamar Blue Cell Viability Assay. **R.D. Shipman, J. Talukder.** University of Wisconsin–Stout.
- LB424** Ginger Extracts Inhibit Na-Glucose Cotransport in Rat Intestinal Epithelial Cells. **J. Talukder, C. Hill, A. Jaima, J. Santiz-Lopez.** University of Wisconsin–Stout, LeMoyne-Owen College and Boston University.
- LB425** Docosahexaenoic Acid Inhibits Trypsin Activation and Amylase Release by Activating Adenosine Monophosphate-Activated Protein Kinase in Pancreatic Acinar Cells. **Y. Park, J. Lim, H. Kim.** Yonsei University, Republic of Korea.
- LB426** Alpha-Lipoic Acid Inhibits IL-8 Expression by Reducing Oxidative Stress in Ataxia Telangiectasia Fibroblasts. **J. Yoon, J.W. Lim, H. Kim.** Yonsei University, Republic of Korea.
- LB427** Association Between Toenail Magnesium and Type 2 Diabetes in Chinese Adults. **J. Zhang, G. Ding, H. Wang, Z. Wang, C. Su, J. Zhang, B. Zhang.** National Institute for Nutrition and Health, People's Republic of China.
- LB428** Cobalamin-Deficiency Results in Altered Partitioning of Mitochondrial One-Carbon Units to Formate. **L. MacMillan, G. Tingley, M.E. Brosnan, J.T. Brosnan.** Memorial University of Newfoundland, Canada.
- ASN Community, Public Health and Global Nutrition**
- LB429** Nutrient Composition of Complementary Food Formulated from Millet, Maize, Plantain and Soybean. **A.O. Adeoso, O.L. Oyebamiji.** Yaba College of Technology, Nigeria and University of Lagos, Nigeria.
- LB430** Gender Differences in Use of Social Media for Health-Related Information. **C. Allison, S. Wiggins, W. Yan, W. Zhou, M.D. Olfert, K. Kattelman, A. Mathews, O. Brown, T. Kidd, T. Horacek, A. White, S. Colby.** University of Tennessee, West Virginia University, South Dakota State University, University of Florida, Auburn University, Kansas State University, Syracuse University and University of Maine.
- LB431** Ensuring All Infants Have Access to Human Milk: A Systematic Approach for Establishing Sustainable and Integrated Human Milk Banking Programs. **K. Amundson, R. Sachdeva, N.N. Quynh, J. Muiruri, K. Israel-Ballard.** PATH Seattle, PATH India, PATH Vietnam, and PATH Kenya.
- LB432** Food Insecurity, Glycemic Control, and Heart Rate Variability Among Latinos with Type 2 Diabetes. **A. Bermúdez-Millán, R. Pérez-Escamilla, R. Lampert, S. Segura-Pérez, G. Damio, J. Chhabra, J. Wagner.** University of Connecticut Health Center, Yale University, Hispanic Health Council and Hartford Hospital.
- LB433** Bridging Research, Education and Practice Across Disciplines: Need for Nutrition Education/innovation Programme (NNEdPro). **S. Bhat, M. Kohlmeier, S. Ray.** NNEdPro Global Centre for Nutrition and Health, United Kingdom, and University of North Carolina.

- LB434** NSA Nutritional Supplementation Trial of Fruit and Vegetable Extracts and Vascular Function (NNTV): Improvement to Microvascular Function Using Laser Doppler Iontophoresis, Following Consumption of Encapsulated Fruit and Veg Powder over 12 Weeks (Compared with Placebo), in Overweight and Obese Human Adults. **M. Sayegh, D. Del Rio, S. Ray.** Need for Nutrition Education/innovation Programme (NNEdPro) Global Centre for Nutrition and Health, United Kingdom, Nutrition and Vascular Studies Platform—Medical Research Council (MRC) Elsie Widdowson Laboratory, United Kingdom, and University of Parma, Italy.
- LB435** Associations Between Depression and Cognitive Function in Turkish Elderly. **A. İlhan, P. Bilgic, M. Varli, N. Rakıcioğlu, N. Hongu.** Hacettepe University, Faculty of Health Sciences, Turkey, Ankara University, Faculty of Medicine, Turkey and University of Arizona.
- LB436** Relationship Between Muscularity Concerns and Body Checking Behaviors in Turkish Bodybuilders. **A. Devrim, P. Bilgic, B. Aslantas, N. Hongu.** Hacettepe University, Faculty of Health Sciences, Turkey and University of Arizona.
- LB437** The Prevalence Status of Overweight and Obesity in Chinese Teenagers Aged 15–17. **H. Fang.** National Institute for Nutrition and Health, Chinese Center for Disease Control and Prevention, People's Republic of China.
- LB438** Newly Formulated Fortified Blended Foods Result in Improved Protein Quality and Iron Bioavailability in Broiler Chickens. **N.M. Fiorentino, K.A. Kimmel, M. Joseph, S. Alavi, R. Beyer, B.L. Lindshield.** Kansas State University.
- LB439** Vitamin B<sub>12</sub> Status in Women of Reproductive Age, NHANES 2013–2014. **A. Fothergill, J. Finkelstein.** Cornell University and St. John's Research Institute, India.
- LB440** Claims and Promotional Strategies Declared on Front-of-Pack Processed and Ultra-Processed Products Related with Children and Adolescent Obesity in Costa Rica. **T. Gamboa, A. Blanco-Metzler, I. Gómez-Duarte, M. Ramirez-Zea, M. Kroker-Lobos.** Universidad de Costa Rica, School of Public Health, Costa Rica, Institute of Research and Teaching in Nutrition and Health (Inciensa), Costa Rica, Research Center for Chronic Disease Prevention, Institute of Nutrition of Central America and Panama (INCAP), Guatemala.
- LB441** Dietary Habits Among Adolescent Girls 9–13 Years of Age That Have Accessed Nutritional Information in Last 12 Months in the Upper Manya Krobo District, Ghana. **M.Z. Ghadirian, G. Marquis, S. Clark, R. Aryeetey, D. Obeng.** McGill University, Canada, and University of Ghana, Ghana.
- LB442** The Role of Fruit and Vegetable Concentrates in Alleviating the Growing Burden of Cardiovascular Diseases in USA: Evidence from a Simulation Study. **D. Gregori, M G. Vecchio, C. Minto, S. Zec, M. Lamprecht.** University of Padova, Italy, Zeta Research, Ltd., Italy, and Medical University of Graz, Austria.
- LB443** Undernutrition Among Chinese Adults in 2002–2012. **H. Guo.** National Institute for Nutrition and Health, People's Republic of China.
- LB444** A Consistent Database of Nutrient Intakes 1978–Present Can Improve Analyses of Consumption Trends. **J.F. Guthrie, T.A. Smith, B. Lin.** Economic Research Service, US Department of Agriculture, and University of Georgia.
- LB445** Inadequate Sleep Quality On- and Off-Duty Among Central Texas Male Firefighters. **L.M. Hernandez, C. Loza, K. Dong, M.R. Forman.** University of Texas at Austin, The University of Texas Medical Branch and Purdue University.
- LB446** Accessibility and Availability of Food Store in Urban Area of Korea. **M. Jang, S-A. Kim, S. Chung, H. Joung.** Seoul National University, Republic of Korea.
- LB447** Nutritional Status of Illegal Drug Users in the Greater Accra Region of Ghana. **J. Setorglo, K. Awusabo-Asare, K.K A. Pereko, M.K. Klevator, M. Steiner-Asiedu.** University of Cape Coast, Ghana, and University of Ghana, Legon, Ghana.
- LB448** Rationale and Design of Theory-Based Nutritional Strategy to Promote Healthy Dietary Habits in Severe Obese Adolescents: Study Protocol for ICAAN (Intervention for Childhood and Adolescent Obesity via Activity and Nutrition) Project. **J. Kim, H. Jang, H. Lee, S. Park, Y. Kim, Y. Seo, K. Park, H. Lim.** Kyung Hee University, Republic of Korea, Korea National Institute of Health, Republic of Korea, University College, Yonsei University International Campus, Republic of Korea, and Hallym University Sacred Heart Hospital, Republic of Korea.
- LB449** Self-Reported Diabetes Status Moderates the Association Between Food Insecurity and Body Mass Index. **Y. Liu, D.T. Remley, Y. Zhang, H.A. Eicher-Miller.** Purdue University and Ohio State University Extension.
- LB450** Association of Dietary Sugar Intake with Bone Loss, Non-Traumatic Fracture Risk, and All-Cause Mortality in Chinese Elderly: Finding From an 11-Year Longitudinal Study of Mr and Ms OS Hong Kong. **Z. Liu.** Sun Yat-sen University, People's Republic of China.
- LB451** Dietary Inflammatory Index Scores Are Associated with Blood Inflammatory Markers in Healthy Korean: Sata from the Health Examinee Cohort (2012–2014). **W. Na, M. Kim, C. Sohn.** Wonkwang University, Republic of Korea.
- LB452** Sandwich Consumption Can Favorably Impact Energy and Nutrients to Limit in US Adults: A Modeling Analysis Using Data from the National Health and Nutrition Examination Survey, 2003–2014 and the USDA Typical Food Pattern. **Y. Papanikolaou, V.L. Fulgoni.** Nutritional Strategies, Canada, and Nutrition Impact.
- LB453** The Local Food System That Mothers of Children Aged 1 to 5 Years Access in Rural Mexico. **L.I. Reyes, E.A. Frongillo, C.E. Blake, S. Moore, W. Gonzalez, A. Bonvecchio.** University of South Carolina, Global Alliance for Improved Nutrition, Switzerland, and National Institute of Public Health, Mexico.

**LB454** Dietary Diversity of Children 6–23 Months Is Limited by Age Related Complementary Feeding Practices as Well as Household Dietary Diversity in Peru, Bangladesh and Sierra Leone. **R.C. Robert, H.M. Creed-Kanashiro, M.E. Penny, M. Marin, B. Cottrell.** Instituto de Investigación Nutricional, Peru, The Catholic University of America and CARE USA.

**LB455** Accelerated Shelf Life Studies: Testing Micronutrient Stability of New and Upgraded Food Aid Products. **N. Schlossman, Q. Johnson, L. Wood, N. Coglianese, V. Santoso, L. Koepfel.** Global Food & Nutrition Inc. and Quican Inc., Canada.

**LB456** Process Evaluation of a Youth-Mentor Led Childhood Obesity Prevention Intervention at Urban Recreation Centers. **A.M. Schmall, A. Trude, J. Gittelsohn.** Johns Hopkins Bloomberg School of Public Health.

**LB457** Body Fat Distribution in Chinese Adults. **C. Su, G. Ding, B. Zhang, H. Wang, Z. Wang, J. Zhang, X. Jia.** National Institute for Nutrition and Health, Chinese Center for Disease Control and Prevention, People's Republic of China.

**LB458** Trends in Dietary Quality Among Middle-Aged Adults from the Framingham Heart Study. **L.M. Troy.** University of Massachusetts Amherst.

**LB459** Are Meals and Snacks Consumed by Preschool-Aged Children in Family Child Care Homes Meeting the Dietary Guidelines? **M.Y.M. Tsai, N.Z. Mena, K.M. Gans, P.M. Risica, I.E. Lofgren, A. Tovar.** University of Rhode Island, University of Connecticut and Brown University.

**LB460** Genetics of Acute Kidney Injury Markers in Hispanic Children: The Viva La Familia Study. **I. Vazquez-Vidal, G. Chittoor, B. Mass, K. Haack, S. Laston, N. Mehta, A.G. Comuzzie, S. Cole, N. Butte, V.S. Voruganti.** University of North Carolina at Chapel Hill, Nutrition Research Institute, Texas Biomedical Research Institute, South Texas Diabetes and Obesity Institute, University of Texas Rio Grande Valley School of Medicine, US Department of Agriculture–Agricultural Research Service Children's Nutrition Research Center and Baylor College of Medicine.

**LB461** WIC Works! Positive Influence of the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) on Diet Quality in Low Income Children. **M.C. Zimmer, J.A. Vernarelli.** Fairfield University.

**LB462** Assessing the Public's Comprehension of Dietary Guidelines: Use of MyPlate/MyPyramid Tools Is Associated with Higher Diet Quality, Findings from the NHANES. **J. Schwartz, J.A. Vernarelli.** Fairfield University.

**LB463** Television Food and Beverage Marketing to Children in Costa Rica: Is a Regulatory Policy Needed? **I. Zamora Corrales, M.L. Jensen, F. Kroker-Lobos, S. Vandevijvere, M. Ramírez.** University of Costa Rica, Costa Rica, Institute of Nutrition of Central América and Panama, Guatemala, and University of Auckland, New Zealand.

**LB464** Impact of Acculturation and Acculturative Stress on Diet and Body Weight Among International Students Moving from China to the United States. **X. Zhang, J. Colee, W. Dahl, N. Bliznyuk, C. Choi, Z. Alyousif, C. Xu, A.E. Mathews.** University of Florida.

### **ASN Energy and Nutrient Metabolism**

**LB465** Regulation of Branched-Chain Alpha-Keto Acid Dehydrogenase During Muscle Cell Differentiation. **B. Beatty, Z. Dhanani, O.J. Adegoke.** York University, Canada.

**LB466** Assessing the Impact of the Diet on Cardiometabolic Outcomes: Are Two Consecutive Measures Post-Intervention Really Necessary? **J. Allaire, D. Talbot, P. Couture, A. Tchernof, P.J. Jones, P.K. Etherton, S. West, P.W. Connelly, D.J. Jenkins, B. Lamarche.** Laval University, Canada, University of Manitoba, Canada, Pennsylvania State University, Keenan Research Centre for Biomedical Science, Canada, and Risk Factor Modification Centre, Canada.

**LB467** Metabolomics Reveals Rapid Alterations and Adaptation in Canine Plasma in Response to Changes in Dietary Methionine: Cystine and Choline. **D. Allaway, G. Thomas, R. Staunton, P. Watson.** Waltham Centre for Pet Nutrition, United Kingdom.

**LB468** Effect of *Cirsium setidens* Nakai Extract on High-Fat Diet-Induced Obesity in C57BL/6J Mice. **B-Y. Cho, J-H. Lee, J-M. Kim, S-I. Choi, T-D. Jung, S-H. Choi, M-J. Ra, S-Y. Kim, I-J. Kang, K.C. Han, O-H. Lee.** Kangwon National University, Republic of Korea, Hongcheon Institute of Medicinal Herb, Republic of Korea, Hallym University, Republic of Korea, and Hatti Co. Ltd., Republic of Korea.

**LB469** Energy Intake Fluctuations During Muslim Holiday Season. **H. Tutumlu, Z. Goktas.** Hacettepe University, Turkey.

**LB470** Transgenerational Effects of Branched Chain Amino Acids Supplement Combined with High Fat Diet in Male Mice. **J. Han, Y. Lee, J. Park, Y. Park.** Ewha Womans University, Republic of Korea.

**LB471** Betulinic Acid Decreased *de Novo* Lipogenesis and Lipid Accumulation in Differentiated 3T3-L1 Adipocytes. **H.K. Kim, G-W. Go.** Kookmin University, Republic of Korea.

**LB472** Red Pepper Seed Extract Suppressed Gluconeogenesis in AML12 and Stimulated Glucose Uptake in C2C12. **H. Kim, G-W. Go.** Kookmin University, Republic of Korea.

**LB473** Effect of Rapid or Slow Weight Reduction on the Body Composition and Body Energy Loss in Rats. **M. Maeda, E. Kondo, H. Inoue, K. Okamura.** Osaka University of Health and Sport Sciences, Japan.

**LB474** Maternal Low Protein Diet Decreases Leptin Expression in the Brains of the Neonatal Rat Offspring. **G. Marwarha, K. Claycombe, O. Ghribi.** University of North Dakota, U.S. Department of Agriculture–Agricultural Research Service and Grand Forks Human Nutrition Research Center.



**LB475** Attenuation of Obesity by Ornithine Enriched Blueberry Liquid Starter in 3T3-L1 Preadipocyte and High-Fat Diet Fed Obese Mouse Model. **S-H. Oh, M. Kim, O-K. Yu, S-G. Kim, Y-S. Cha.** Woosuk University, Republic of Korea, and Chonbuk National University, Republic of Korea.

**LB476** Fat Pad Accumulation and Diet Purification Alter Gastrointestinal Integrity Markers in C57Bl/6 Mice. **T.R. Price, K. Moncada, L. Nolasco, R. Walzem.** Texas A&M University.

**LB477** Interrelationships Between Inflammatory Biomarkers, Fecal and Plasma Short Chain Fatty Acids. **B. Rust, D. Cooper, L. Welch, W. Horn, J. Newman, M. Marco, R. Martin, N. Keim.** University of California at Davis and US Department of Agriculture.

**LB478** Neither Linoleic Acid nor Arachidonic Acid Promote White Adipose Tissue Inflammation in *Fads2*<sup>-/-</sup> Mice Fed Low Fat Diets. **K. Suitor, G.W. Payne, S. Abdelmagid, D.M. Mutch, M.T. Nakamura, D.W.L. Ma.** University of Guelph, Canada, and University of Illinois.

**LB479** Sodium Butyrate Improves Antioxidant Capability of HepG2 Cells Under H<sub>2</sub>O<sub>2</sub>-Induced Oxidative Stress. **X. Tang, X. Xing, Z. Jiang, Y. Li, Y. Sun, H. Xiao.** Jiangnan University, People's Republic of China, University of Massachusetts, and Wuxi No.1 Senior High School, People's Republic of China.

**LB480** Effects of  $\alpha$ -Lipoic Acid on Mitochondrial Function in HepG2 Cells under H<sub>2</sub>O<sub>2</sub>-Induced Oxidative Stress. **X. Tang, X. Xing, H. Xiao.** Jiangnan University, People's Republic of China, and University of Massachusetts.

**LB481** Casein Before Bed Is as Effective as Receiving Earlier in the Day in Increasing Muscle Mass and Strength in Response to Resistance Training. **J. Joy, R. Vogel, N. DiMarco, K. Broughton, R. Wildman.** Texas Woman's University.

**LB482** A Ketogenic Diet Increases Markers of Mitochondrial Content in a Tissue Specific Manner in Adult Mice. **Z. Zhou, K. Hagopian, M. Roberts, D. Tran, G. Perez, K. Kim, J. Ramsey.** University of California.

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## Pathology

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### It's A Dangerous World Out There: Toxic Injury

**LB483** Toxicological Effect of Castor Seed (*Ricinus communis*) Petroleum Ether Extract on Wistar Rat. **O.S. Olorunfemi, O.N. Eyinla, J.O. Ajoja, F.J. Arogundade.** Federal University of Technology, Nigeria, IFAD/CBNRM-ND, Akure, Nigeria, Federal College of Education, Kogi, Nigeria, and Agricultural Development Project, Akure, Nigeria.

**LB484** Tributyltin Exposure Alters Post-Embryonic Growth and Intestinal Microbiota Assembly in Zebrafish. **S. Gomez de la Torre Canny, O. Mueller, J.F. Rawls.** Duke University.

**LB485** *In Vitro* systems Toxicology Assessment of Acute Exposure of an Aerosol from a Candidate Modified-Risk Tobacco Product on Organotypic Human Small Airways Tissue Culture. **Y. Martinez, A. Iskandar, P. Leroy, F. Martin, A. Sewer, S. Majeed, K. Trivedi, E. Guedj, L. Ortega Torres, C. Mathis, S. Frentzel, N. Ivanov, M. Peitsch, J. Hoeng.** PMI R&D and Philip Morris Products S.A., Switzerland.

**LB486** Rifampicin and Isoniazid Induced Liver Injury via the Pregnane X Receptor. **C.T. Brewer.** St. Jude Children's Research Hospital.

**LB487** Alleviation of Paraquat-Induced Oxidative Stress and Pulmonary Fibrosis by Betaine in Rats. **J.D. Na, Y.J. Choi, Y.C. Kim.** Seoul National University, Republic of Korea.

### Cell and Molecular Therapies

**LB488** Apoptosis-Inducing Herbs for Prostate Cancer Prevention and Treatment. **J. Meng, B. Hawthorne, K. Lund.** Bastyr University.

**LB489** Stem Cell Therapy Effect on the Inflammatory Response in a Porcine Model of Acute Lung Injury. **R.J. McCully, L. Murata, D. Ho, J. Blythe, L. Pierce, C. Uyehara.** Tripler Army Medical Center.

**LB490** Regulation of Extracellular Matrix Gene Expression and Biosynthetic Pathways in Pulmonary Fibroblasts by HSF1. **M. Jones, C.T. Wales, R.A. Gristock, A.T. Jacobs.** University of Hawaii at Hilo.

**LB491** MSC-Derived Exosomes Deliver Cardioprotective miR-21. **L. Haar, K. Luther, A. Phan, M. McGuinness, M. Zilliox, Y. Wang, W.K. Jones.** Loyola University Chicago.

**LB492** Lack of Effect of the Direct Renin Inhibitor Aliskiren on Cardiac Mast Cells and Macrophages in an Acute Model of Fat Embolism in Rats. **A. Fotouhi, D. Arif, A. Siddiqi, R. Ponnappureddy, M. VanDillen, K. Tappeta, S. Khan, S. Hamidpour, A. Poisner, A. Molteni.** University of Missouri-Kansas City School of Medicine and University of Kansas Medical Center.

**LB493** Preliminary Data on the Effects of High Fat Diet, Olive Oil and Vitamin D on Fatty Liver and Muscle in an Experimental Model. **F.M. Trovato, G. Musumeci, M. Szychlinska, H. Nsir, G. Magro, L. Salvatorelli, P. Castrogiovanni.** University of Catania School of Medicine, Italy, and University of Catania, Italy.

**LB494** Angiotensin-2 Levels in the Risk Stratification and Mortality Outcome Prediction of Sepsis Associated Coagulopathy. **S. Statz, A. Walborn, M. Williams, D. Hoppensteadt, M. Mosier, M. Rondina, J. Fareed.** Loyola University Medical Center, University of Indiana and University of Utah School of Medicine.

**LB495** Minimal Effect of Aliskiren on Renal Vascular Effects of Fat Embolism in an Acute Rat Model. **F. Khalafi, H. Elsherbiny, V. Vaidyanathan, A. Ahmad, A. Poisner, Y. Molteni.** University of Missouri–Kansas City Medical School, University Health Network, Toronto, Canada, and University of Kansas Medical Center–Kansas City.

### Mechanisms in Malignancy

**LB496** Parathyroid Hormone-Related Protein Stimulates Head and Neck Cancer Cell Growth via RUNX2 Regulation and Serves as a Poor Prognostic Marker in Patients. **W-M. Chang, M. Hsiao.** Academia Sinica, Taiwan.

**LB497** Identification of CtBP Targets in Breast Tumor Sections by Proximity Ligation Assay. **S. Park, A. Jones, D. Yi, G. Liang, M. Kabbout, K. Flanders, L.M. Wakefield, J.S. Byun.** National Cancer Institute and National Institute on Minority Health and Health Disparities.

**LB498** Targeting the Protein-Protein Interaction Between G $\alpha$ h and PLC $\delta$ 1 Prevents Metastatic Progression in Triple-Negative Breast Cancer. **Y. Lin, S. Huang, C. Chen.** Taipei Medical University, Taiwan.

**LB499** Implication of Aberrant Protein Expression in the Etiology of Pancreatic Cancer. **S.G. Nyaga, B. Akobundu, J. Giwa-Otusafo, K. Hazel.** Morgan State University.

### Injury and the Host Response

**LB500** Dysregulated Inflammation in Response to Hypoxia-Confounded Injury. **J. Mayeux, S. Adesina, C. Caesar, P. Barnett Naylor, A. Woodard-Grice.** Halyard Health.

**LB501** Hypoxia Decreases Wound Stability via Degradation of the Extracellular Matrix. **C. Caesar, S. Adesina, P. Barnett Naylor, A. Woodard-Grice.** Halyard Health.

**LB502** NOS1 and SOC1 Work as a Switch of Macrophage Functional Phenotypes. **C. Blajszczak, C. He, B.N. Gantner, M. Bonini.** University of Illinois at Chicago.

**LB503** 12-HETE Signaling Through the G Protein-Coupled Receptor 31 (GPR31) Regulates Pancreas Development and Disease. **R.M. Anderson, M. Hernandez-Perez, S. Tersey, N. Samala, B. Maier, R.G. Mirmira.** Indiana University School of Medicine and Center for Diabetes and Metabolic Disease.

**LB504** Modulation of Human Umbilical Cord-Derived Mesenchymal Stromal Cells Immunophenotype Through Cellular Priming. **A. Cromer, M. Zuniga, D. Cohen, J. Smith, M. Weiss.** Kansas State University and University of Kentucky College of Medicine.

**LB505** Calcium-Handling of Endothelin A and B Receptors in Coronary Artery upon Post Ischemic Reperfusion Injury in Rats. **S.B. Kristiansen, K.A. Haanes, M. Sheykhzade, L. Edvinsson.** Rigshospitalet Glostrup, Denmark and University of Copenhagen, Denmark.

**LB506** Endomucin Is Necessary for Pathologic Retinal Neovascularization in Vivo. **P.A. D'Amore, C.A. Park-Windhol, M. Saint-Geniez.** Schepens Eye Research Institute of Massachusetts Eye & Ear.

**LB507** Simultaneous Knockdown of Toll-Like Receptors 2 and 4 Attenuates the Severity of Post-Stroke Inflammation and Brain Damage. **K. Nalamolu, B. Chelluboina, N.J. Smith, J.D. Klopfenstein, D.M. Pinson, D.Z. Wang, K. Veeravalli.** University of Illinois College of Medicine at Peoria and Illinois Neurological Institute.

**LB508** Involvement of Tenascin-R in Post-Stroke Brain Damage. **K.R. Nalamolu, J.D. Klopfenstein, D.M. Pinson, D.Z. Wang, K.K. Veeravalli, B. Chelluboina.** University of Illinois College of Medicine at Peoria and Illinois Neurological Institute.

### On Your Mind: Neurobiology and Neuropathology

**LB509** Characterization of an Epileptic Disorder of GABA Metabolism Through Development of Murine *Aldh5a1* Deficient Neuronal Stem Cells. **K.R. Vogel, G.R. Ainslie, J-B.O. Roulet, K.M. Gibson.** University of Wisconsin and Washington State University.

**LB510** Can Molecular Hippocampal Alterations Explain Behavioral Differences in Prenatally Stressed Rats? **E.A. Woolard, C. Miller, K. McDaniel, T. Beasley, W. Oshiro, V. Moser.** US Environmental Protection Agency (EPA)-ORISE and EPA.

**LB511** The Changes of the Learning and Memory Ability After Stimulation by STN-DBS in Parkinson's Disease Rats. **C. Hao, H. Duan, H. Li, S. Wang, C. Zhang, L. Pan.** The First Clinical College of Shanxi Medical University, People's Republic of China, The Public Health College of Shanxi Medical University, People's Republic of China, and Shanxi Medical University, People's Republic of China.

**LB512** The Changes of the Dopaminergic D1 Cell After Stimulation by STN-DBS in Parkinson's Disease Rats. **H. Duan, C. Hao, H. Li, S. Wang, C. Zhang, Y. Fan, Y. Liu, M. Pei, H. Wang.** The First Clinical College of Shanxi Medical University, People's Republic of China, The Public Health College of Shanxi Medical University, People's Republic of China, and Shanxi Medical University, People's Republic of China.

### Methodologies in Pathobiological Investigation

**LB513** Building Bridges for Collaboration: The University of Iowa Women's Health Tissue Repository. **D.A. Santillan, H.A. Davis, L.S. Jacobus, W.S. Hamilton, J.C. Schappet, S.M. Scroggins, E.J. Devor, D.S. Brandt, K.M. Thomas, K.K. Leslie, M.K. Santillan.** University of Iowa Hospitals and Clinics.

**LB514** Resonance Raman Spectroscopy Probes the Effects of BGP-15 Treatment on Ventilator Induced Diaphragm Dysfunction Myopathy in Rat ICU Animal Model. **V. Sriramoju, H. Salah, N. Cacciani, H. Akkad, L. Larsson, R. Alfano.** The City College of New York, City University of New York, and Karolinska Institute, Sweden.

**LB515** Transmission Electron Microscopy Analysis of Visceral and Subcutaneous Lymph Nodes: High Fat Diet-Induced Morphological Changes. **M. Foster, K. Vanderpool.** Colorado State University.

**LB516** Toward the Development of Personalized Medicine: A Novel Tissue Preservation System for the Automation and Standardization of Brain Tumor Harvesting in a Surgical Setting. **M. Cartwright.** NICO Incorporated and The University of Arizona.

**LB517** Quantitative Real Time PCR Detection of African Swine Fever Virus DNA from Formalin-Fixed, Paraffin-Embedded Tissues. **J.D. Trujillo, K. Urbaniak, D. Meekins, A.S. Davis, J.A. Richt.** Kansas State University.

**LB518** 3D Human Platelet Lysate Gel Model: LPS and Poly (I:C) Increase Invasion of Human Umbilical Cord Mesenchymal Stem Cells. **T. Jirakittisonthon, J. Jimenez, J. Abello, A. Cromer, S. Sun, M. Weiss.** Kansas State University.

**LB519** Utility of Lipoprint® Lipoprotein Subfraction Testing in a Rodent Atherosclerosis Model. **P. Katavolos, A. Martzall, T. Nguyen, J. Ross, J. Zavala-Solorio, G. Kolumam.** Genentech and Calico.

**LB520** Computer Vision Detects Subtle Histological Effects of Dutasteride on Benign Prostate Tissue. **P.H. Gann, L. Sha, V. Macias, N. Kumar, A. Sethi.** University of Illinois at Chicago and Indian Institute of Technology–Guwahati, India.

**LB521** Progressive Aging Changes in the Optical Properties of Rat Brain. **L. Shi, V. Sriramoju, A. Kaleem, R. Dudley, A. Rodriguez-Contreras, A. Ostos-Valverde, R.R. Alfano.** The City College of New York, City University of New York, Columbia University, and Universidad Nacional Autónoma de México (UNAM), Mexico.

**LB522** Porcine and Ovine Mucosal Heparins and Their Depolymerized Derivatives Are Comparable in Contrast to Their Bovine Equivalents. **O. Bouchard, M. Lewis, D. Hoppensteadt, P. Maia, A. Silva de Castro, E. Kumar, N. Guler, W. Jeske, D. Kahn, J. Walenga, E. Coyne, J. Fareed.** University of Michigan, Northwestern University, Loyola University Medical Center, and Loyola Cardiovascular Research Institute.

**LB523** Elevated Circulating CD40-L in Atrial Fibrillation and Its Modulation by Ablation. **A. McKenzie Otto, J. Fareed, S. Statz, A. Walborn, J. Liles, D. Hoppensteadt, T. Rowe, S. Jabati, M. Syed.** Loyola University Stritch School of Medicine and Loyola University Medical Center.

## Pharmacology

### Cancer Pharmacology

**LB524** Organoid Models to Interrogate GPCR Regulation of Pancreatic Tumorigenesis. **M.E. Feigin, D.A. Tuveson.** Cold Spring Harbor Laboratory.

**LB525** *In Vitro* Anti-Proliferative Analysis of Metformin Hydrochloride on Androgen-Sensitive (LNCaP) and Androgen-Insensitive (PC-3) Human Prostate Cancer Cell Lines. **D. Adedeji, B. Hinton, G. Payne.** Elizabeth City State University.

**LB526** Exploiting ROS-Generating Mechanisms for IFN- $\gamma$  Therapy of Renal Cell Carcinoma. **S. Shahrokh, P.B. Makhov.** Fox Chase Cancer Center.

**LB527** *GNAS*-PKA Oncosignaling Network in Colorectal Cancer. **D.J. Steffen, P. Amornphimoltham, J.L. Callejas Valera, S. Taylor, T. Hunter, P. Tamayo, J. Gutkind.** University of California at San Diego and Salk Institute for Biological Studies.

**LB528** Anti-Tumor Activity of PCaIs in 3D Cell Culture and Mice Models. **O.O. Salako, A.T. Nkembo, E. Ntantie, N.S. Lamango.** Florida A&M University.

**LB529** Arginase Inhibition Suppresses Breast Cancer Cell Proliferation. **A. Shatanawi, H. Qasrawi.** The University of Jordan, Jordan.

**LB530** Curcuminoids Suppress Cell Proliferation of Glioblastoma by Down-Regulation of CXCR4 Signaling Pathway. **A.C. Shivachar, J.E. Nnamdiebere, B.C. Jordan, C. Selvam, O.P. Mathews, K. Ranganna.** Texas Southern University.

**LB531** STK11 Loss Stabilizes MCL1 and Confers Targetable Drug Resistance in KRAS Mutant NSCLC. **M. Kahle, E. Akbay, C. Christensen, L. Sholl, J. Becker, M. Soucheray, Z. Chen, I. Pulido, E. Kikuchi, Y. Gao, P. Dennis, W. Qiu, F. Al-Shahrour, N. Johnson, M. Awad, J. Carretero, K. Wong, T. Shimamura.** Loyola University Chicago, Dana-Farber Cancer Institute, Brigham and Women's Hospital and Harvard Medical School, University of Valencia, Spain, Hokkaido University Hospital, Japan, Translational Bioinformatics Unit, Clinical Research Programme, Spanish National Cancer Research Centre, Spain and Fox Chase Cancer Center.

**LB532** Tumor-Induced Factor (CXCL3) Suppresses Tumor Initiation. **W-T. Cheung, Z-F. Li, L. Jin, D-K. Wang, M. Sun, W. Qi, Q. Ma, L. Zhang, C. Chu, X. Liu, S.S.T. Lee, H. Wise, K-F. To, Y. Shi, N. Zhou.** The Chinese University of Hong Kong, Hong Kong, Zhejiang University, People's Republic of China.

**LB533** Anti-Cancer Effect of Fluorinated Caffeic Acid Phenethyl Ester on Multiple Myeloma Cells. **E. Hernandez Marin, X. Wang.** Philadelphia College of Osteopathic Medicine–Georgia Campus.

**LB534** Cytostatic Effects of *Pursatilla* (*Bai Tu Weng*) on Mammary Adenocarcinoma Cell Line (MDA-MB-231) Along Multiple Signaling Pathways. **Y. Cho, Z. Elias.** Bastyr University.

**LB535** Development of Naphthalimide DNA Intercalators as Anticancer Therapeutics. **K. Skubic, M. Adams, J. Horn, A. Priddy, R. Oelrich, M. Lewis, B. Znosko, C. Arnatt.** Saint Louis University.

**LB536** Involvement of Polo-Like Kinase 1 (Plk1) in Tumor Growth and Epithelial-Mesenchymal Transition of Tamoxifen-Resistant Breast Cancer. **S.B. Jeong, K.W. Kang.** Seoul National University, Republic of Korea.

### Cardiovascular Pharmacology

**LB537** Measurement of the Binding of Fluorescent Variants of VEGF<sub>165</sub><sup>a</sup>, VEGF<sub>165</sub><sup>b</sup> and VEGF<sub>121</sub><sup>a</sup> to VEGFR2 Using NanoBRET in HEK293 Cells. **C. Peach, L. Kilpatrick, M. Robers, R. Ohana-Friedman, J. Woolard, S. Hill.** University of Nottingham, United Kingdom, and Promega Corporation.

**LB538** Enhanced TRPV4-Mediated Ca<sup>2+</sup> Influx in Ventricular Fibroblasts from Human Hypertrophic Cardiomyopathy. **G.R. Ross, B. Chahal, A. Sra, S.D. Ryan, F. Rizvi, P. Werner, A. J. Tajik, A. Jahangir.** Aurora Research Institute, Aurora Health Care and Aurora Sinai/Aurora St. Luke's Medical Centers.

**LB539** Differential Effects of SEH Inhibitors on Vascular Smooth Muscle Cell Proliferation and Migration. **H.S. Kim, K.W. Kang.** Seoul National University, Republic of Korea.

**LB540** Inhibition of BMP2-Inducible Kinase (BMP2K) Reduces Hypoxia/Reoxygenation Injury and Decreases Autophagic Flux in H9c2 Cells. **S.I. Engman, N.R. Nelson, S. Dong, L.M. Graves, E.M. Wauson.** Des Moines University and The University of North Carolina at Chapel Hill.

**LB541** Enhanced Lipoxigenase/LTD4 Activity Accounts for the Exaggerated Hypertensive and Nephrotoxic Effects of Cyclosporine Plus Indomethacin in Rats. **M.W. Helmy, M.M. Helmy, M.M. El-Mas.** Damahour University, Egypt, and Alexandria University, Egypt.

**LB542** Dynamic Regulation of Apoptosis, Autophagy, and Necroptosis in Ischemic Postconditioning Cardioprotection: The Importance of Adiponectin. **Q. Zhu, H. Li, X. Xie, Z. Ge, Q. Lian, R. Ge, Z. Xia.** The Second Affiliated Hospital and Yuying Children's Hospital of Wenzhou Medical University, People's Republic of China, and The University of Hong Kong, Hong Kong.

**LB543** A Novel Hydrogen Sulfide Donor, JK1, Protects the Heart Against Cardiac Hypertrophy and Heart Failure. **Z. Li, C.L. Organ, J. Kang, M. Xian, D.J. Lefer.** Louisiana State University Health Sciences Center and Washington State University.

**LB544** A Novel Hydrogen Sulfide Prodrug, BW-HP-202, Attenuates Myocardial Ischemia/reperfusion Injury. **Z. Li, C.L. Organ, R.K. Trivedi, Y. Zheng, B. Yu, B. Wang, D.J. Lefer.** Louisiana State University Health Sciences Center and Georgia State University.

**LB545** LCZ696, the First-in-Class Angiotensin Receptor Nephprilysin Inhibitor, Improves Vascular Reactivity in Hypertensive Rats in the Setting of Heart Failure. **R.K. Trivedi, Z. Li, D.J. Polhemus, D. Yoo, H. Koiwaya, T.T. Goodchild, D.J. Lefer.** Louisiana State University Health Sciences Center New Orleans.

**LB546** Radiofrequency Renal Denervation Improves Vascular Reactivity in a Rodent Model of Heart Failure. **R.K. Trivedi, Z. Li, D.J. Polhemus, H. Koiwaya, T.T. Goodchild, D.J. Lefer.** Louisiana State University Health Sciences Center New Orleans.

**LB547** Protamine Sulfate Neutralization of Bovine and Porcine Heparins: Developmental Implications. **S. Paria, O. Atcho, A. Kouta, S. Abro, D. Hoppensteadt, W. Jeske, J. Kingo, J. Fareed.** Loyola University Medical Center, Aniana.

**LB548** A Nitric Oxide Spin Trap Shortens Survival of Septic Shock, Independent of Administration Time. **S.J. Olvera Vazquez, D. Ramirez Rosales, S.N. Arellano Ahumada, M. Castillo Hernandez, R.D. Kross, C. Villanueva.** Instituto Politecnico Nacional, Escuela Superior de Fisica y Matematicas, Mexico, Instituto Politecnico Nacional, Escuela Superior de Medicina, Mexico and Kross Link Laboratories.

**LB549** SRY-Box 9 (SOX9): A Novel Binding Partner of Cardiac Muscle-Specific A-Kinase Anchoring Protein (mAKAP) Signalosome. **S. Suryavanshi, S. Bark, B.K. McConnell.** University of Houston.

**LB550** Exercise Ameliorates Endoplasmic Reticulum Stress-Mediated Vascular Dysfunction in Atherosclerotic Mesenteric Arteries. **J. Hong, K. Kim, E. Park, J. Lee, Y. Park.** University of Houston.

**LB551** Use of Bioluminescence Resonance Energy Transfer (BRET) and Fluorescent Vascular Endothelial Growth Factor (VEGF) Isoforms to Characterize the Molecular Pharmacology of Neuropilin-1 Receptors in Living HEK293 Cells. **L. Kilpatrick, M. Robers, R. Friedman-Ohana, K. Zimmerman, J. Woolard, S. Hill.** University of Nottingham, United Kingdom, and Promega Corporation.

**LB552** USP Referenced Potency Evaluation of Bovine Heparins Utilizing Currently Available Assays. **O. Atcho, S. Paria, A. Kouta, W. Jeske, O. Iqbal, S. Abro, D. Hoppensteadt, P. Maia, J. Kingo, J. Amiral, J. Fareed.** Loyola University Medical Center, Aniana, and BioMed SAS, France.

**LB553** Distinct MAP Kinase Activation Patterns of Angiotensin and Cannabinoid Systems in SHR Astrocytes. **D. Haspula, M. Clark.** Nova Southeastern University.

**LB554** Regulation of Neuroinflammatory Cytokines by Angiotensin and Cannabinoid Systems in SHR Astrocytes. **D. Haspula, M. Clark.** Nova Southeastern University.

**LB555** Evaluation of Diuretic and Urine Electrolyte Effects of Naringenin in Hypercholesterolemic Rats. **H.A. Madkhali, M.A. Ganaie, M.N. Ansari, T.H. Khan.** Prince Sattam Bin Abdulaziz University, Saudi Arabia.

**LB556** Elemental and Lipophilic Analysis of Kashmir Saffron by ICP-MS and GC-MS and Its *in Vivo* Anti-Inflammatory Potential. **H.A. Madkhali, M.A. Ganaie, B.L. Jan, A. Ahmad, M.L. Raish, S.R. Ahamad.** Prince Sattam Bin Abdulaziz University, Saudi Arabia, and King Saud University, Saudi Arabia.

**LB557** Adenosine Receptor Dependent Regulation of Vascular Tone in L-NAME Mouse Model of Hypertension. **V.R. Yadav, B. Teng, J.S. Mustafa.** West Virginia University.

**LB558** Peak Caspase-1 P20 Levels During Acute Myocardial Infarction Correlate with Pre-Existing Hypertension, Age and Post-Infarction Cardiac Dysfunction. **M. Greenwood, A. Morgan, S. Na, C. Gold, B. Liang, L. Shapior, B. Liang.** University of Connecticut School of Medicine and Quinnipiac University School of Medicine.

**LB559** Role of MCP1 in High Insulin-Related Endothelial Cell Dysfunction. **R. Chen, Y. Chang.** Kirksville College of Osteopathic Medicine and A.T. Still University.

**LB560** Long-Term Effects of Atenolol Use on Glycemia. **C. Camacho-Narro, L.A. Camacho-Saavedra, V.H. Bardales-Zuta, L.J. Fernández-Rodríguez.** Antenor Orrego Private University, Peru, and National University of Trujillo, Peru.

**LB561** Evogliptin, a Novel Dipeptidyl Peptidase 4 Inhibitor, Ameliorates Atherosclerosis by Modulating Vascular Inflammatory Responses. **J. Won, P. Nguyen, M. Cho.** Dongguk University, Republic of Korea.

**LB562** Antidiabetogenic Effects of the Seed Extracts of *Picalima nitida*. **O.M. Ojuola, M.O. Abatan.** University of Ibadan, Nigeria.

**LB563** Effects of Hydroxytyrosol on Cardiovascular and Neuroprotective Biomarkers in Experimental Diabetes Mellitus. **J.A. Gonzalez-Correa, M.D. Rodriguez-Perez, J.A. Lopez-Villodres, U. Medina-Moreno, J.J. Reyes de la Vega, J.P. de la Cruz.** University of Malaga, Spain, and Universidad Autónoma de San Luis Potosí, Mexico.

**LB564** Antioxidant Activity of Methanol Leaf Extract of *Vernonia amygdalina* in Kidney of Alloxan-Induced Diabetic Rats. **A.T. Adeoye, A.A. Adedapo, T.O. Omobowale, A.A. Oyagbemi.** University of Ibadan, Nigeria.

**LB565** Evaluation of Antiobesity Activity of Ethanol Extract of Cashew Apple Against High Fat Diet Induced Obesity in Rodents. **T J. Rani, K.V.S.R.G. Prasad, S. Dodoala.** Institute of Pharmaceutical Technology and Sri Padmavati Mahila Visvavidyalayam, India.

## Cellular and Molecular Pharmacology

**LB566** G Protein Specificity of Inhibitory Adrenergic  $\alpha_{2a}$  Receptor-Mediated Modulation of Synaptic Transmission. **Y.Y. Yim, K. Betke, W.H. McDonald, R. Gilsbach, Y. Chen, K. Hyde, Q. Wang, L. Hein, H. Hamm.** Vanderbilt University, University of Freiburg, Germany, and University of Alabama at Birmingham School of Medicine.

**LB567** An Internalization Assay for Dopamine D2(Short) Receptors Using Bioluminescence Resonance Energy Transfer (BRET) Technology. **L. De Vries, F. Finana, C. Cathala, B. Ronsin, D. Cussac, S. Gatti-McArthur.** Pierre Fabre Research Institute, France, and Université Paul Sabatier Toulouse, France.

**LB568** Sestrin2 Inhibited the Activation of Hepatic Stellate Cells and Liver Fibrosis via Blocking Transforming Growth Factor- $\beta$  Signaling. **J.H. Yang, S.H. Ki.** Chosun University, Republic of Korea.

**LB569**  $M_3$  Muscarinic Acetylcholine Receptors Inhibit Autophagy Through Activation of mTORC1 in Human Neuroblastoma Cells. **P. Onali, S. Dedoni, M.C. Olanas.** University of Cagliari, Italy.

**LB570** mTORC2 Facilitates the Maturation of Protein Kinase C by a Phosphorylation-Independent Mechanism. **T.R. Baffi, C.M. Gould, Z. Wang, S. Gutkind, A.C. Newton.** University of California at San Diego and Biomedical Sciences Graduate Program.

**LB571** Ginsenoside Re Promotes Pancreatic B-cell Proliferation via CREB Activation. **J. Park, H. Jun, E. Park.** Mokpo National University, Republic of Korea, and College of Pharmacy and Gachon Institute of Pharmaceutical Science, Gachon University, Republic of Korea.

**LB572** Selective Stimulation of Inhibitory Motorneurons in the Mouse Colon Following Light Activation of Channel Rhodopsin-2 (ChR2) *ex Vivo*. **A. Perez-Medina, F. Manfredsson, J. Galligan.** Michigan State University.

**LB573** Glycosaminoglycans Inhibit Substance P- and IL-33-Stimulated IL-8 and TNF Release from Human-Cultured Mast Cells. **A.R. Gross, T.C. Theoharides.** Tufts University School of Medicine, Sackler School of Graduate Biomedical Sciences and Tufts University.

**LB574** Effect of Melatonin Receptor Ligands on Acetylcholinesterase Activity in C3H/HeH Mouse Brain. **E.S. Klatt, R.V. Rajnarayanan, M.L. Dubocovich.** University at Buffalo and The State University of New York.

### Central Nervous System Pharmacology

**LB575** Joint Application of N-Acetylcysteine and Allopurinol Reduces Spinal Cord TNF-Alpha Expression and Attenuates Mechanical Allodynia in Diabetic Rats. **S. Li, D. Yan, P. Gu, Q. Zhu, C.W. Cheung, M.G. Irwin, C. Yu, Z. Xia.** Affiliated Hospital of Stomatology, Chongqing Medical University, People's Republic of China, and The University of Hong Kong, Hong Kong.

**LB576** Genome-Wide Tissue Transcriptome Profiling and Ligand Screening Identify Seven Striatum-Specific Human Orphan GPCRs. **J.A. Allen, S.R. Raval, R. Yang, S. Xi.** University of Texas Medical Branch, and Pfizer, Inc.

**LB577** Protective Effect of Naringenin Against Arsenic Trioxide Induced Oxidative Stress. **R.S. Peruru, S. Dodoala.** Sri Padmavati Mahila Visvavidyalayam, India.

**LB578** Analgesic Effects Mediated by Alpha 7 Nicotinic Acetylcholine Receptors: A Potential Non-Opioid Treatment for Pain. **C. Abburi, I.C. Umana, C. Daniele, B.A. Miller, K. Gallagher, M.A. Brown, P. Mason, D.S. McGehee.** University of Chicago.

**LB579** Time-Locked Mesolimbic Dopamine Signals in Response to Pain Onset and to Pain Offset. **B. Isakov, C. Atcherley, T. Gee, E. Navratilova, M. Heien, F. Porreca.** University of Arizona and Mayo Clinic.

**LB580** Phytopharmacological Evaluation of Chamomile (*Matricaria recutita*) for Indirect Modulation of the Endocannabinoid System. **A.T. El-Alfy, K. Manlimos, N. Patel, J. Kendrek, E. Abourashed.** Chicago State University, University of South Carolina School of Medicine Greenville and Medical College of Wisconsin.

**LB581** Effect of Fatty Acid Amide Hydrolase (FAAH) Inhibitors Isolated from Nutmeg on Anxiety. **A.T. El-Alfy, A. Jeon, H. An, J. Kendrek, E. Abourashed.** Chicago State University, University of South Carolina School of Medicine Greenville and Medical College of Wisconsin.

**LB582** The Atypical Antidepressants Mianserin and Mirtazapine Inhibit TNF- $\alpha$ -Induced Apoptosis via LPA<sub>1</sub> in Mouse HT22 Hippocampal Cells. **M.C. Olanas, S. Dedoni, P. Onali.** University of Cagliari, Italy.

**LB583** Identifying Diazepam Induced Alterations in GABA<sub>A</sub>R Synaptic Plasticity. **J. Lorenz-Guertin, M. Wilcox, M. Zhang, M. Larsen, J. Pilli, S. Das, M. MacDonald, J. Johnson, A. Waggoner, S. Watkins, T.C. Jacob.** University of Pittsburgh and Carnegie Mellon University.

**LB584** Neuroprotective Potential of Transient Receptor Potential Melastatin-2channel Inhibitor Flufenamic Acid in Experimental Model of Focal Cerebral Ischemia. **B. Medhi, D. Harikrishnareddy.** Post Graduate Institute of Medical Education and Research, India.

**LB585** Large Volume Intrathecal Bolus: CSF Pressure and Implications for Safety. **V. Belov, J. Appleton, B. Durcanova, M. Papisov.** Massachusetts General Hospital, Harvard Medical School and Shriners Hospitals for Children.

**LB586** Acetate, the Metabolite of Ethanol, Increases Cytosolic Calcium and mRNA Expression Levels of EGR1 and TNF $\alpha$  in Dopaminergic Like PC12 Cells. **J.E. Behnke, A.D. Chapp, K.M. Driscoll, Z. Shan, Q. Chen.** Michigan Technological University.

**LB587** Effects of Chronic Pramipexole on AMPA Receptor Trafficking and Akt/GSK-3 $\beta$  Signaling in a Rat Model of Parkinson's Disease. **M.S. Kase, C. Napier, A. Persons.** Rush University Medical Center.

**LB588** Exploration of the 5-HT<sub>2A</sub>:5-HT<sub>2C</sub> Receptor Protein Complex *in Vitro*. **D.E. Felsing, N.C. Anastasio, S.R. Gilbertson, G.F. Moeller, K.A. Cunningham, J.A. Allen.** University of Texas Medical Branch, University of Houston and Virginia Commonwealth University.

**LB589** Norclozapine Reduces Beta Amyloid<sub>1-42</sub> Levels and Increases ChAT Levels in 3xTg-AD Female Mice. **A. Burkart, P.E. Potter, D.C. Jones.** Midwestern University.

**LB590** Regulation of the Dopamine D4 Receptor by Angiotensin II in Rat Astrocytes. **A. O'Connor, M. Trivedi, M. Clark.** Nova Southeastern University.

**LB591** Impact of Delta-9-Tetrahydrocannabinol on the Reinforcing Effects of Remifentanyl in Rhesus Monkeys Responding Under a Food/Drug Choice Procedure. **D.R. Maguire, C. France.** University of Texas Health San Antonio.

**LB592** Intermittent High Fat Diet Exposure Attenuates Acquisition and Maintenance of Alcohol Drinking in Rats. **N. Vithlani, A.M. Smith, K. Dickenson, J.F. Davis, S. Sirohi.** Xavier University of Louisiana and Washington State University.

**LB593** Thanks for the Memories: Cocaine Cue Reactivity and the 5-HT<sub>2A</sub> Receptor (5-HT<sub>2A</sub>R) System. **E. Holliday, D.J. Sholler, R.G. Fox, S.J. Stutz, K.T. Dineley, N.C. Anastasio, K.A. Cunningham.** University of Texas Medical Branch.

**LB594** Behavioral and Pharmacokinetic Properties of the Putatively Inert DREADD Ligand Clozapine-N-Oxide (CNO) in Rats and Mice. **J.H. Porter, D.F. Manvich, K.A. Webster, S.L. Foster, M.S. Farrell, D. Weinschenker.** Virginia Commonwealth University, Emory University School of Medicine and University of North Carolina at Chapel Hill School of Medicine.

### Drug Discovery and Development

**LB595** A Scientometric Analysis of Research on *Pueraria lobata* and Predictable Usefulness in Skin Health. **E. Sohn, E-H. Sohn.** Korea Institute of Science and Technology Information, Republic of Korea, and Kangwon National University, Republic of Korea.

**LB596** Phantasmidine, a Rigid Epibatidine Congener, Is a Potent, Stereoselective and Subtype-Selective Agonist at Nicotinic Acetylcholine Receptors. **R.W. Fitch, A.A. Pandya, J.L. Yakel, T.T. Olson, N. Al-Muhtasib, Y. Xiao, K.D. Welch, K.E. Panter, Q. Zhou, B.B. Snider.** Indiana State University, University of Alaska Fairbanks, National Institute of Environmental Health Sciences–National Institutes of Health, Georgetown University, US Department of Agriculture–Agricultural Research Service and Brandeis University.

**LB597** Novel Microscale Solutions for Biophysical Characterization in Drug Discovery and Development. **C. Heffern.** Nanotemper Technologies.

**LB598** Indole-2-Carboxamide Derivatives as G-Protein Coupled Estrogen (GPER/GPR30) Ligands. **A. O'Dea, C. DeLeon, M. Wilhelm, P. Sweeney, C. Arnatt.** St. Louis University.

**LB599** Synthesis and Biological Evaluation of a Novel Series of G Protein-Coupled Estrogen Receptor Antagonists for the Treatment of Gallstone Disease. **C. DeLeon, M. Wilhelm, P. Sweeney, C. Arnatt.** Saint Louis University.

**LB600** Effects of (-)-Epigallocatechin Gallate (EGCG) on Proliferation and Viability of Jurkat T-Cells Treated with Ethanol. **V. Snitsarev.** Montclair State University.

**LB601** Functional Improvement of Dystrophic Muscle via Let7 Site Blocking Oligonucleotide Mediated Utrophin Upregulation. **M.K. Mishra, E. Loro, S.D. Wilton, T.S. Khurana.** Medical College of Wisconsin, University of Pennsylvania and University of Western Australia, Australia.

**LB602** Regulation of Cannabinoid-Mediated Neuroprotection by Hydrogen Sulfide in Bovine Isolated Retina. **L. Mitchell, J. Robinson, K. Ngele, C. Opere, S.E. Ohia, Y. Njie-Mbye.** Texas Southern University and Creighton University.

**LB603** N<sup>6</sup>-Cyclohexyladenosine, an A1 Adenosine Receptor Agonist, as a Novel Thermolytic Adjunctive Pharmacotherapy for Targeted Temperature Management. **B. Laughlin, I. Baily, S. Rice, Z. Bararti, K. Drew.** University of Alaska Fairbanks.

**LB604** Characterization of Cardiac Arrhythmias During n<sup>6</sup>-Cyclohexyladenosine Assisted Cooling of Rats. **K. Dowell, Z. Barati, B. Laughlin, K. Drew.** University of Alaska Fairbanks and Institute of Arctic Biology.

**LB605** Dynamic Surface Temperature Control Prevents Overcooling with N<sup>6</sup>-Cyclohexyladenosine in Rats. **I.R. Bailey, B. Laughlin, L.A. Moore, L.K. Bogren, Z. Barati, K.L. Drew.** University of Alaska Fairbanks.

**LB606** Effect of Hydrogen Sulfide-Releasing Compounds on Aqueous Humor Outflow Facility Under Different Perfusion Pressures. **J. Robinson, L. Mitchell, K. Ngele, C. Opere, S.E. Ohia, Y.F. Njie-Mbye.** Texas Southern University and Creighton University.

**LB607** <sup>6</sup>n-Cyclohexyladenosine Suppresses Shivering in Anesthetized Swine. **K.L. Drew, Ø. Tøien, M.M. Kumar.** University of Alaska Fairbanks and Mayo Clinic.

### Drug Metabolism and Disposition

**LB608** New *in Vitro* Affinity-Based Method of Studying Herb-Drug Interactions for Direct Identification of CYP1A2, 3A4, and 2C9 Inhibitors from Herbal Extract Using Ultrafiltration-High Performance Liquid Chromatography. **Z. Wang, S H. Hwang, S.S. Lim.** Hallym University, Republic of Korea.

**LB609** Structure Activity Relationship of PEG-Peptide Scavenger Receptor Inhibitors. **R. Allen, K. Rice.** University of Iowa.

**LB610** Pharmacokinetics of Cefquinome in Healthy and *Pasteurella multocida*-Infected Rabbits. **S.T. Elazab, D. Schrunk, R.W. Griffith, S.M. Ensley, G. Dell'Anna, K. Mullin, M.G. Elsayed, M.S. Amer, S.M. El-Nabtity, W.H. Hsu.** Iowa State University, Mansoura University, Egypt, and Zagazig University, Egypt.

**LB611** Fractional Contribution of UGT2B15 and UGT2B17 in Testosterone Glucuronidation in Human Liver Microsomes and Its Variability. **H Y. Zhang, D.K. Bhatt, B. Prasad.** University of Washington.

**LB612** Clinical Evaluation of Hop-Drug Interactions Using Probe Substrates of Cytochrome P450 Enzymes and a Hop Dietary Supplement. **L. Chen, A. Tonsing-Carter, R. van Breemen.** University of Illinois College of Pharmacy.

**LB613** Belinostat, a Clinically Used Histone Deacetylase Inhibitor, Inhibits Rifampicin Induced CYP3A4 and MDR1 Gene Expression. **S.R. Pondugula, K.L. Abbott, C.S. Chaudhury, D.D. Schwartz.** Auburn University.

**LB614** Halogen- $\pi$  Interactions in the Cytochrome P450 Active Site: Structural Insights into Human P450 2B6 Substrate Selectivity. **M.B. Shah, J. Liu, Q. Zhang, C. Stout, J.R. Halpert.** University of Connecticut and The Scripps Research Institute.

**LB615** Effects of Troglitazone on Bile Acid Disposition in Bsep KO Rats. **Y. Cheng, S. Chen, C. Freeden, W. Chen, Y. Zhang, D. Nelson, W.G. Humphreys, J. Gan, Y. Lai.** Bristol-Myers Squibb.

### Pharmacogenomics and Translational Pharmacology

**LB616** Decreased Expression of ETS-2 in EPCs as an Early Marker of Cardiovascular Instability in CABG Patients, Beneficial Effects of Sitagliptin. **T. Tejerina, Ú. Medina, M. Carnero, J. Navarro-Dorado, M. García-Bouza, F. Reguillo.** Universidad Complutense de Madrid, Spain, and Hospital Clínico San Carlos, Spain.

**LB617** Pharmacogenomic Next-Generation DNA Sequencing: Identification and Functional Characterization of Variants of Unknown Significance in *CYP2C9* and *CYP2C19*. **S. Devarajan, I. Moon, J.L. Black, S. Bielinski, N. Larson, D. Neavin, L. Wang, R. Weinshilboum, J. Reid.** Mayo Clinic.

### Pharmacology Education

**LB618** Using Gaming Strategies to Augment Pharmacology Content Retention in a Doctor of Pharmacy Program. **A. Malhotra.** School of Pharmacy, Pacific University.

### Toxicology

**LB619** Saikosaponins Induced Hepatotoxicity Through Disruption of Lipid Metabolism and Induction of Oxidative Stress in Mice: A Proteomic Analysis. **R. Sun, X. Li, Q. Yang, X. Li, R. Liu.** Shandong Academy of Traditional Chinese Medicine, People's Republic of China, and Virginia Commonwealth University.

**LB620** Quercetin Attenuates Sodium Fluoride (NaF)-Induced Hypertension Through Reduction in Oxidative Stress and Heat Shock Proteins (HSP 70)/Extracellular Signal Regulated Kinase (ERK) Pathways in Rats. **J.M. Afolabi, A.A. Oyagbemi, T.O. Omobowale, E.R. Asenuga, T.O. Ajibade, O.A. Adejumbi, F.O. Hassan, A.A. Adedapo, M.A. Yakubu.** University of Ibadan, Nigeria, University of Benin, Nigeria, and Texas Southern University.

**LB621** The Role of Nrf2 in Primary Human CD4 T Cell Activation and Differentiation. **A.E. Turley, J. Zagorski, C.E. Rockwell.** Michigan State University.

**LB622** Glycyrrhizinate Dipotassium (DPG), Myonecrosis Control and Skeletal Muscle Differentiation: A New Adjuvant Therapy for Snake Envenomation. **T. Rocha, T. Cavenatti, L. Nascimento, J. Ziegler, T. de Oliveira, M. Gracia, D. Priolli.** São Francisco University, Brazil.

**LB623** Predicting the Toxic Effect of Organophosphates on GST Enzyme Isoforms. **A.A. Alghamdi, K.M. Frey.** Long Island University.

**LB624** Nanoceria Dissolution and Carboxylic Acid Stabilization in Aqueous Dispersions. **R.A. Yokel, M.L. Hancock, E.A. Grulke, J.M. Urline, U.M. Graham.** University of Kentucky.

**LB625** Structural and Inflammatory Alterations in the Respiratory Tract Following Chlorine Gas Inhalation in Mice. **R. Malaviya, C.R. Gardner, J.D. Laskin, D.L. Laskin.** Rutgers University.

**LB626** Manganese Exposure Induces Neuroinflammation by Impairing Mitochondrial Dynamics in Astrocytes. **E. Malovic, S. Sarkar, D.S. Harischandra, H.A. Ngwa, H. Jin, V. Anantharam, A. Kanthasamy, A.G. Kanthasamy.** Iowa State University.

**LB627** Amelioration of Galactosamine-Induced Acute Hepatic Injury by Betaine in Rats. **Y.J. Choi, J.D. Na, Y.C. Kim.** Seoul National University, Republic of Korea.

**LB628** Lindane (Gamma-Hexachlorocyclohexane) Exposure Impairs  $[CA^{2+}]_i$ -Mediated Vascular Reactivity. **M.A. Yakubu, N.S. Abraham, B.F. Bessac.** Texas Southern University, and University of Hawaii Maui College, Kahului.

### Pharmacology—Other

**LB629** Anticonvulsant Drug Polytherapy Stops *Status Epilepticus* and Prevents Neuronal Loss in Soman-Exposed Rats. **M. Stone, C. Schultz, F. Rossetti, K. Walker, E. Kundrick, S. O'Brien, B. Marrero-Rosado, J. Niquet, C. Wasterlain, L.A. Lumley.** US Army Medical Research Institute of Chemical Defense, Walter Reed Army Institute of Research and University of California at Los Angeles.

**LB630** Rosuvastatin Therapy for Dyslipidemia and Other Associated Parameters in Saudi Metabolic Syndrome Patients. **M. Rafeeq, H. Habib, H. Murad, M. Gari, Z. Gazzaz.** King Abdulaziz University, Saudi Arabia.

**LB631** Effects of Co-Inhalation of Roflumilast or Formoterol Plus Fluticasone on Inflammatory Mediators and White Cell Counts in Blood in Asthmatic Mice. **H.A.S. Murad, H.A.S. Habib, M. Rafeeq, M. Sulaiman, A.A.S. Abdulrahman, M-N. Khabaz.** King Abdulaziz University at Rabigh, Saudi Arabia, Ain Shams University, Egypt, and King Abdulaziz University at Jeddah, Saudi Arabia.

**LB632** Intracellular Upstream Signals Activate Histamine  $H_1$  Receptor and Interleukin-9 Gene Expression, Sensitive to Pollinosis. **H. Fukui, H. Mizuguchi, Y. Kitamura, H. Nemoto, Y. Kashiwada, N. Takeda.** Tokushima University Graduate School, Japan.

**LB633** Elucidate the Role of TGF-Beta in Prevention and Treatment of Gingival Hyperplasia Using HGF-1 Cells. **V. Kale, S. Mathew, M. Melnik, L.M. Danh.** Roseman University of Health Sciences.

**LB634** Chemical Composition and In Vitro Antioxidant Activity Evaluation of Acetone Extract of *Crinum jagus* Bulbs (Liliaceae) Linn. **O.A. Shorinwa, O.O. Ebong, I.M. Siminialayi, A.W. Obianime.** University of Port Harcourt, Nigeria.

**LB635** Effect of Ultrasound on Antimicrobial Properties of Whey Protein-Totalol Nanogel. **M. Guo, S. Ma.** Jilin University, People's Republic of China, and University of Vermont.



## Physiology

### Cardiovascular

- LB636** Intermittent Hypoxia and Hypercapnia Accelerate Aorta and Pulmonary Artery Atherosclerosis, Partially Mediated via Trimethylamine-Oxide (TMAO) in Both ApoE<sup>-/-</sup> and Ldlr<sup>-/-</sup> Mice on High Fat Diet. **J. Xue, D. Zhou, O. Poulsen, T. Imamura, Y. Hsiao, A. Malhotra, P. Dorrestein, R. Knight, G.G. Haddad.** University of California at San Diego and The Rady Children's Hospital.
- LB637** Cardiovascular Risk Factors and Academic Performance in Peruvian Medical Students. **L.J. Fernandez-Rodriguez, V.H. Bardales-Zuta, D.O. Altamirano-Sarmiento, J.S. Hilario-Vargas.** Antenor Orrego Private University, Peru, and National University of Trujillo, Peru.
- LB638** Proteomic Characterization of Epicardial-Myocardial Signaling Reveals Novel Regulatory Networks Including a Role for NF- $\kappa$ B in Epicardial EMT. **Y. Li, A. Urban, D. Midura, H. Simon, Q. T. Wang.** University of Illinois at Chicago and Northwestern University.
- LB639** Pravastatin<sup>TM</sup> Prevents Venous Shear Stress Dependent Induction of Aquaporin 1 Protein Expression in Human Umbilical Vein Endothelial Cells *in Vitro*. **R.J. Crum, C. Krane.** University of Dayton.
- LB640** Bronchodilator Therapy and Survival in Heart Failure Patients. **K.E. Uithoven, E.M. Snyder, T.P. Olson.** University of Minnesota–Twin Cities and Mayo Clinic.
- LB641** Contribution of Beta-Arrestin Signaling on Thyroid Hormone-Induced Cardiac Hypertrophy. **C.A. Lino, M.L.M. Barreto-Chaves.** University of Sao Paulo, Brazil.
- LB642** Angiotensin-(1-7) Prevents Cardiovascular Changes Induced by Hyperthyroidism. **N. Senger, M.B. Melo, M.J. Campagnole Santos, R.A. Santos, M.L.M. Barreto-Chaves.** University of Sao Paulo, Brazil, and Federal University of Minas Gerais, Brazil.
- LB643** Interactive Role of TLR4 and TLR2 in Cardiac Functions During Stressful Conditions. **A.K. Bagchi, G. Akolkar, S. Mandal, P. Ayyappan, X. Yang, P.K. Singal.** University of Manitoba, Canada.
- LB644** Na<sub>2</sub>S<sub>2</sub>, a Fast-Releasing H<sub>2</sub>S Donor, Given as Suppository but Not Parenteral GYY4137, a Slow-Releasing H<sub>2</sub>S Donor, Lowers Blood Pressure in Rats. **M. Ufnal, L. Tomasova, A. Drapala, D. Koszlewski, R. Ostaszewski.** Medical University of Warsaw, Poland, and Polish Academy of Sciences, Poland.
- LB645** Multi-Scale Systems Analysis of Blood Pressure Control in the Spontaneously Hypertensive Rat. **D.A. Beard, J.D. Bukowy, B.E. Carlson, D.E. Michele, S.E. Whitesall, F. Van den Bergh.** University of Michigan and Medical College of Wisconsin.
- LB646** The Effect of Vinyasa Yoga on Cardiovascular Risk Factors and Bone Mineral Density in Sedentary Young Adults. **M. D. Choi, C. Payter, K. Landis-Piowar, R. Doshi.** Oakland University.
- LB647** A Regulatory Role for SDF-1/CXCR4 Axis in Promoting TNF-Mediated Cardiac Damage Associated with Alcoholic Cardiomyopathy. **J. Little, A. Abad, A. Peeran, G. Haddad, S. Tarzami.** Hampton University, Alfaisal University, Saudi Arabia, and Howard University.
- LB648** Hypoxic Preconditioning Protects Rat Hearts Against Ischemia/Reperfusion Injury via H<sub>2</sub>S/TRPA1 Pathway. **M-C. Ma, H-S. Huang, Y-S. Chen.** Fu Jen Catholic University, Taiwan, National Cheng Kung University Hospital, Taiwan, and National Taiwan University Hospital, Taiwan.
- LB649** Assessment of Cardiac Function During the Progression of Heart Failure Induced by Intracoronary Embolizations in the Canine Model: Monitoring in Conscious and Anesthetized States. **A.C. Krishnan, A. Lovelace, D. Senador, J. Kaur, A. Alvarez, H.W. Hanna, P.E. Levanovich, M.D. Dombrowski, J.T. Mannozi, K. Aung, S. Haddad, J. Sala-Mercado, P.D. Levy, D.S. O'Leary.** Wayne State University.
- LB650** Mitofilin Knockdown in Rat H9c2 Myoblasts Induces Cell Death by Apoptosis via an AIF-PARP-Dependent Mechanism and Cell Cycle Arrest. **M. Lie, N.B. Madungwe, Y. Feng, J.C. Bopassa.** University of Texas Health Science Center at San Antonio.
- LB651** Vaping to Vascular Damage: The Role of E-Cigarettes on Vascular Function. **S. Clayton, E. DeVallance, K. Branyan, C. Pitzer, M. Breit, H. Hoskinson, P. Klinkhachorn, B. Erdreich, P. Chantler, M. Olfert.** West Virginia University—School of Medicine, West Virginia University and College of Engineering and Mineral Resources.
- LB652** Critical Role of Smooth Muscle Rac1 in Neointimal Formation Following Vascular Injury. **F.E. Lennon, Y. Li, Z. Hong, J.K. Liao.** University of Chicago.
- LB653** Inhibitory Role of BMP4 on the PDGF-Induced Proliferation and Collagen Synthesis in PSMCs. **L. Kovacs, P. Cai, Y. Su.** Augusta University and Charlie Norwood Veterans Affairs Medical Center.
- LB654** Imaging Cardiac Voltage Gated Sodium Channels Using the Novel F-18 Radiotracer Radiocaine. **M. Schoenberger, J. Hooker, M. Strebl, A. Schroeder, T. McKinsey, A. Ambardekar.** KU Leuven, Belgium, Massachusetts General Hospital, Harvard Medical School, and University of Colorado.
- LB655** Perinatal Taurine Supplementation Prevents Metabolic and Cardiovascular Effects of Maternal Dyslipidemia in Adult Rat Offspring. **A. Thaeomor, C. Tangnoi, J. Chaisakul, S. Seanthaweek, N. Somparn, S. Roysommuti.** Suranaree University of Technology, Thailand, Phramongkutklao College of Medicine, Thailand, Thammasat University, Rangsit Campus, Thailand, and Khon Kaen University, Thailand.

- LB656** Young Healthy Men and Women Are Protected from Prolonged Sitting and Postprandial Hyperglycemia-Induced Brachial Artery Endothelial Dysfunction. **L.K. Walsh, R.M. Restaino, C.A. Jones, N.C. Winn, J. Padilla.** University of Missouri.
- LB657** Protective Respiratory Effect of Beta-Blockade Therapy in Heart Failure Patients. **K.E. Uithoven, E.M. Snyder, T.P. Olson.** University of Minnesota-Twin Cities and Mayo Clinic.
- LB658** Peak Aortic Acceleration as a Noninvasive Index of Left Ventricular Contractility. **A. Reddy, C. Pena Heredia, T. Coulthard, T.T. Pham, G.E. Taffet.** Baylor College of Medicine and Indus Instruments.
- LB659** Chronic Autonomic Dysreflexia After T3 Spinal Cord Injury Results in Impaired Vascular Function in Femoral Rat Arteries. **A.H X. Lee, A.M M Z. Zheng, A.A. Phillips, A.V. Krassioukov.** International Collaboration on Repair Discoveries, Canada, University of British Columbia, Canada, and GF Strong Rehabilitation Center, Canada.
- LB660** High Salt Diet Plus Fructose Water Intake Induces Hypertension. **T.M. Hahka, Y. Fan, E.M. Jiang, Q. Chen, Z. Shan.** Michigan Technological University.
- LB661** Effect of All-Extremity Exercise Training on Left Ventricular Function Assessed by Speckle Tracking Echocardiography in Healthy Older Adults. **C. Hwang, J.W. Petersen, K. Mackay, J. Yoo, H. Kim, M. Hwang, E.M. Handberg, A.D. Szady, D.D. Christou.** University of Florida and Incheon National University, Republic of Korea.
- LB662** Sirtuin-1 Deacetylation of p53 Plays a Role in Shear Stress-Induced Autophagy in Endothelial Cells. **P. Ting, L. Wu, D.L. Wang.** Tzu Chi University, Taiwan.
- LB663** Time-Dependent Effects of Training on Cardiac Renin Angiotensin System (RAS): Protection Against Oxidative Stress, Inflammation and Pathological Cardiac Remodeling. **S.D. Silva Junior, Z. Jara, R. Moreira, D. Casarini, L. Michelini.** University of Sao Paulo, Brazil, and Federal University of Sao Paulo, Brazil.
- LB664** Sevoflurane Increases Mobilization of Endothelial Progenitor Cells in Rats and Coronary Artery Disease Patients. **A. Vlad, M. Popescu, I. Stanca, D. Corneci, C. Stancu, L. Niculescu, G. Isvoranu, L. Ceafalan, A.C. Popescu, D. Dimulescu.** Carol Davila University of Medicine and Pharmacy, Romania, Elias University Emergency Hospital, Romania, Nicolae Simionescu Insititute of Cellular Biology and Pathology, Romania, and Victor Babes National Institute of Research and Development, Romania.
- LB665** Imbalanced Periaortic Adipose Tissue Brown-to-Inflammatory Phenotype Is Related to Aortic Stiffness. **Z.I. Grunewald, N.C. Winn, M.L. Gastecki, M.L. Woodford, J.R. Ball, S.A. Hansen, H.S. Sacks, V.J. Vieira-Potter, J. Padilla.** University of Missouri, David Geffen School of Medicine and University of California at Los Angeles.
- LB666** Endothelial Dysfunction Occurs Independently of Adipose Tissue Inflammation and Insulin Resistance in Ovariectomized Yucatan Swine. **T.J. Jurrissen, T.D. Oler, G.S. Lin, N.C. Winn, M.L. Gastecki, R.J. Welly, Z.I. Grunewald, C.A. Emter, V.J. Vieira-Potter, J. Padilla.** University of Missouri.
- LB667** Appearance of Local Abnormalities of Left Ventricular Contraction on Top of Global Diastolic Dysfunction in the Hypertensive mRen2 Rat. **T. Csipo, G.A. Fulop, B. Bodi, M. Fagyas, D. Priksz, B. Juhasz, L. Beke, Z. Hendrik, G. Mehes, A. Olah, T. Radovits, B. Merkely, H. Granzier, Z. Papp, B. Judit, A. Toth, A. Kovacs.** Faculty of Medicine, University of Debrecen, Hungary, Semmelweis University, Hungary and University of Arizona.
- LB668** The Paracrine Effects of Satellite Cells on Collateral Vessel Formation. **L. Hansen, W. Liu, G. Joseph, D. Weiss, W. Taylor.** Emory University, Atlanta Veterans Affairs Medical Center and Georgia Institute of Technology.
- LB669** Peripheral Vascular Adaptations to All-Extremity Aerobic Exercise Training in Healthy Older Adults. **J. Lim, H-K. Kim, C-L. Hwang, J-K. Yoo, M-H. Hwang, E.M. Handberg, W.W. Nichols, D.D. Christou.** University of Florida and Incheon National University, Republic of Korea.
- LB670** Cardiovascular Regulation in Mice with Attenuation or Overexpression of the Vesicular Acetylcholine Transporter (VACHT) Gene: Parasympathetic Function in Heart Failure. **G.C.S.V. Tezini, D.P. Martins Dias, M. Oliveira, S. Guatimosim, M.A.M. Prado, H.C. Salgado.** Ribeirão Preto Medical School, University of São Paulo, Brazil, Federal University of Minas Gerais, Brazil, Robarts Research Institute and The University of Western Ontario, Canada.
- LB671** Effects of Swimming Training and Estrogen Therapy on C-Type Natriuretic Peptide-Induced Relaxation in Aorta of Ovariectomized Hypertensive Rats. **G.R. Abreu, E.R. Claudio, S.A. Almeida, F.B. Silva, L.A. Menezes.** Federal University of Espirito Santo, Brazil.
- LB672** Gender Differences of Heart Rate Variability in College Age Students. **A. Toth, S. Melton.** West Chester University.
- LB673** Low Flow-Mediated Constriction in Peri-Menopausal Women. **A. Kuczmarski, K.N. Sebzda, M.M. Wenner.** University of Delaware.
- LB674** Endurance Exercise Training Improves Functional Sympatholysis in Postmenopausal Women. **N. Kruse, W. Hughes, R. Hochstedler, J. Bock, E. Iwamoto, K. Ueda, D. Casey.** University of Iowa.
- LB675** TRPV4 Deletion Improves Cardiac Function, Structure and Remodeling Following Myocardial Infarction. **R.K. Adapala, A. Minasyan, A.K. Kanugula, H.C. Cappelli, S. Paruchuri, G.J. Meszaros, C.K. Thodeti.** Northeast Ohio Medical University, Kent State University and University of Akron.

- LB676** Age-Related Left Ventricular Systolic Dysfunction in a Mouse Model of Hypertrophic Cardiomyopathy. **R.A. Larson, B.S. Purnell, M.K. Davis, R.M. Weiss, M.Z. Cicha, R. Sabharwal, M.W. Chappleau.** The University of Iowa and Veterans Affairs Medical Center.
- LB677** Depressed State of Cardiac Energetics Following Cardiopulmonary Bypass in Pigs. **R. Jaimes, K. Sarkislali, M. Sherman, L. Swift, N. Ishibashi, N. Posnack.** Children's National Health System.
- LB678** Mono(2-Ethylhexyl)phthalate Exposure Alters Electrical Restitution Curve in Isolated Hearts. **R. Jaimes, M. Sherman, B. Siegel, N. Posnack.** Children's National Health System.
- LB679** A Novel Cross Talk Between Mechanosensitive Ion Channel TRPV4 and VEGFR2 in Human Endothelial Cells. **A.K. Kanugula, R.K. Adapala, H.C. Cappelli, S. Paruchrui, C.K. Thodeti.** Northeast Ohio Medical University and University of Akron.
- LB680** Cardiovascular Protective vs. Anti-Cancer Properties: Novel Actions of the AT2R Agonist, NP-6A4. **A.M. Belenchia, P. Beauparlant, A. Mahmood, J. Bajwa, Q. Zhang, S. Khare, L. Pulakat.** Harry S. Truman Memorial Veterans' Hospital, University of Missouri–Columbia and University of Missouri.
- LB681** Myoendothelial Junctions in *in Vitro* Model of Human Pulmonary Microvessels. **A. Bhatta, J. Pagaduan, D. Gracias, L.H. Hartley.** Johns Hopkins University.
- LB682** Beetroot Juice Enhances Functional Sympatholysis in Hypertensive Humans. **J.T. Caldwell, S.L. Sutterfield, J. Frye, C.J. Ade.** Kansas State University.

### Cell and Molecular Physiology

- LB683** A Histological Comparison of Ear Skin Regeneration in *Acomys* and *Mus*. **A. Sandoval, J. Brant, M. Maden.** University of Florida.
- LB684** SMAD3 Contributes to Lung Vascular Remodeling in Pulmonary Arterial Hypertension via MRTF Disinhibition. **D. Zabini, E. Granton, S. Breuils Bonnet, S. Bonnet, N. Morrell, K. Connelly, S. Provencher, B. Ghanim, W. Klepetko, A. Olschewski, A. Kapus, W. Kuebler.** Ludwig Boltzmann Institute for Lung Vascular Research, Austria, St. Michael's Hospital, Canada, Laval University, Canada, University of Cambridge, United Kingdom, Medical University of Vienna, Austria, and Charité-Universitätsmedizin Berlin, Germany.
- LB685** Not All Silver Nanoparticles Are Equal: Effect of Functionalization on K Homeostasis in Human Red Blood Cells. **P.K. Alla, P.K. Lauf, I. Sizemore, A.S.L. Paluri, J. Yaklic, N.C. Adragna.** Wright State University.
- LB686** Lipopolysaccharide Increases the Expression Level of the Aquaporin-4 Water Channel. **N. Sugimoto, N. Nishimura, N. Ohnishi, T. Matsumoto, T. Kitaura, O. Shido, A. Yachie.** Kanazawa University, Japan, Shimane University, Japan, Aichi Medical University, Japan, Nihon Fukushi University, Japan, Mie Prefectural College of Nursing, Japan, and Chukyo University, Japan.
- LB687** CRISPR/Cas9 *ex Vivo* Gene Editing of Rat Primary Hepatocytes as a Potential Therapeutic Model for Genetic Disease. **S. Sandy, S. Rasmussen, J. Niebuhr, M. Grzybowski, A. Geurts.** Medical College of Wisconsin.
- LB688** Rapid High-Fat Diet-Induced Glucose Intolerance Is Not Associated with Hepatic Interleukin-6 Resistance. **L.K. Townsend, S.K. Trottier, W.T. Peppler, D.C. Wright.** University of Guelph, Canada.
- LB689** Methotrexate Scavenges Xanthine Oxidase-Derived Superoxide Without Inhibiting Xanthine Oxidase Activity. **C. Sarmiento, A. Chiou, M.J. Duryee, J. Tian, G.M. Thiele, D.R. Anderson, T.R. Mikuls, M.C. Zimmerman.** Wayne State College and University of Nebraska Medical Center.
- LB690** Angiotensin II-Mediated Proliferation of Neonatal Cardiac Fibroblasts and Role of Mitochondrial Ca<sup>2+</sup> Uptake and Superoxide Generation. **J. Mishra, D. Fu, B.S. Jhun, S-S. Sheu, J. O-Uchi.** Medical College of Wisconsin, Thomas Jefferson University, Rhode Island Hospital and Brown University.
- LB691** Green Fluorescence from Non-Aequorea Hydrozoa *Gonionemus vertens* (Clinging Jellyfish). **E. Petroff, V. Snitsarev, R. Lopez, P.A.X. Bologna, J.J. Gaynor.** Montclair State University.
- LB692** Mechanical Stretch on Endothelial Cells Promotes Monocyte Differentiation Into Immunogenic Dendritic Cells. **R. Loperena, J.A. Gomez, N. Engel, D.G. Harrison.** Vanderbilt University.
- LB693** Lipopolysaccharide Induced Activation of VRAC (LRRC8) in Nodose Neurons Is Dependent on TLR4 Receptor Mediated ROS Generation. **R. Wang, Y. Lu, M.Z. Cicha, M.W. Chappleau, F.M. Abboud.** The University of Iowa and Veterans Affairs Medical Center.
- LB694** Developmental Expression of Transforming Growth Factor Beta-Induced Protein in the Alveolar Lung Promotes Nuclear Factor- KappaB Dependent Pulmonary Endothelial Migration. **M. Liu, S.P. Rao, S. Fu, C. Iosef, G. Umbach, C.M. Alvira.** Stanford University and University of Nevada Reno.
- LB695** Pig Has No Brown Adipose Tissue. **L. Hou, C.Y. Hu, C. Wang.** South China Agricultural University, People's Republic of China, and University of Hawaii at Manoa.
- LB696** Bisphenol-A Alters Human Neutrophil Function. **A. Balistrieri, P.A. Insel, R. Corriden.** University of California at San Diego.

**LB697** Alcohol Regulation of BK Channels Surface Expression via Beta-Catenin Signaling. **J.O. Garcia, A. Burgos, J. Soto, K. Cordero, S. Treistman, C. Velazquez-Marrero.** University of Puerto Rico at Carolina, Institute of Neurobiology and University of Puerto Rico.

**LB698** AMPK $\alpha$ 2 Overexpression Induces IL-15 mRNA Expression Independent of IL-15R $\alpha$  Protein Expression. **M.P. Tomac, A.V. Macias, A.D. Pham, M.J. Abbott.** Chapman University.

**LB699** Mitochondrial Toxicity in Breakdown Products of the Lampricide 3-Trifluoromethyl-4-Nitrophenol (TFM). **D.A. Dunn.** State University of New York at Oswego.

**LB700** Brain Microvascular Endothelial Cell Activation and Barrier Disruption in a Mouse Model of Psychological Resilience. **L.M. Cefalu, G.E. Bieniek, R.M. Cain, D.H. Ho.** Tripler Army Medical Center.

**LB701** Lipopolysaccharide-Induced Activation of Bone Marrow-Derived Macrophages Disrupts Brain Microvascular Endothelial Cell Function in a Mouse Model of Psychological Resilience. **G.E. Bieniek, L.M. Cefalu, R.M. Cain, D.H. Ho.** Tripler Army Medical Center.

### Central Nervous System (CNS)

**LB702** Lateral Hypothalamic Regulation of Energy Homeostasis and Sympathetic Outflow: The Role of Leptin and Melanocortin Signaling. **E.N. Rodriguez Cruz, D.A. Morgan, K.C. Davis, K. Saito, B.A. Toth, E. Martinez III, J. Jiang, K. Rahmouni, H. Cui.** University of Iowa Carver College of Medicine and University of Iowa.

**LB703** Chemical and Histological Analysis of leptomeningeal Plaques. **D. Coovert, B. Millspaugh-Storms, R. Fitch.** Indiana State University.

**LB704** Mechanisms Underlying hPMSC-Based Protection on Human Brain Endothelial Cells. **M. Barzegar, A. Minagar, Y. Wang, J. Yun, C. Boyer, P-O. Couraud, J. Alexander.** Louisiana State University Health Sciences Center and Université Paris Descartes, France.

**LB705** Hypothalamic Vasopressinergic and Orexinergic Pathways Converge with Midbrain Aminergic Inputs on LHb Intrinsic GABAergic System Regulated by Neurosteroid Signaling: Implications for Contingency-Dependent Motivated Behavior. **L. Zhang, V.S. Hernandez, L.E. Eiden.** National Institute of Mental Health and National Autonomous University of Mexico, Mexico.

**LB706** Neuroimmune Communication Between the Circadian Clock and Tumor Development in Mice. **I. Aiello, F. Roman, M. MulFedele, B. Cerliani, S. Richard, J.J. Chiesa, D.A. Golombek, N. Paladino.** Universidad Nacional de Quilmes, Argentina, and Instituto Multidisciplinario de Biología Celular, Argentina.

**LB707** Acute Exercise Rescues Cortex BDNF Signaling in High Fat Fed Male Mice. **B. Baranowski, W.T. Pepler, R.E. K. MacPherson.** Brock University, Canada, and University of Guelph, Canada.

**LB708** Quantum Dynamics Neuronal Stimulation by Sigma Photonics Quantum Energy. **G.P. Einstein, A.P. Anauhvili, O.L. Tulp.** University of Science, Arts, and Technology Montserrat, Montserrat, and Einstein Medical Institute.

**LB709** NMDA Receptor 2B Subunit and BK Channel May Affect Mechanical Allodynia by Regulating the Activity of Enkephalinergic Neurons in the Spinal Dorsal Horn. **S. Tanaka, E. Kato, T. Kofuji, T. Fukushima, Y. Hori.** Dokkyo Medical University, Japan, and Kyorin University School of Medicine, Japan.

### Comparative and Evolutionary Physiology

**LB710** Hibernation: Insights from Comparative Genomics of *Zapus* Species. **W.J. Israelsen, A.D. McNulty, Q. Cong.** University of Texas Southwestern Medical Center.

**LB711** Insulin Signaling During Immune Challenges: Friend or Foe? **L.D. Cambron, K.J. Greenlee.** North Dakota State University.

**LB712** Emersion Profiles and Recovery: Quantifying Physiological Responses in Mussels. **G.F. Dilly, G.D. Brazier, K.M. Christensen, R.W. Moran.** California State University, Channel Islands.

### Biomedical Engineering

**LB713** Development of a Patient-Based Computational Modeling Framework for Analyzing the Mechanisms of Doxorubicin Cardiotoxicity. **A. Lewalle, S. Land, S. Niederer.** King's College London, United Kingdom.

### Endocrinology and Metabolism

**LB714** Grape Pomace and Resveratrol Do Not Restore Glucose Tolerance in the Ovariectomized Rat. **E. Anderson, D.J. Dyck.** University of Guelph, Canada.

**LB715** Effects of Amaranth (*Amaranthus esculantus*) and Canola (*Brassica napus*) Oil Supplementation on Oxidative Metabolism of Neutrophils in Patients with Obesity. **K. Dominika, K. Alina, R. Rafal, W. Malgorzata, G. Marian, S. Maki, B. Andrzej, W. Janusz.** Poznan University of Medical Sciences, Poznan, Poland, and Aichi Medical University, Japan.

**LB716** Exploiting Delta Cell Paracrine Interactions to Curb Glucagon Hypersecretion in Diabetes. **G.M. Noguchi, C.J. Donaldson, A.M. Mawla, A. Saghatelian, M.O. Huising.** University of California at Davis and Salk Institute.

- LB717** Transcriptional Factor-X and Related Small Molecule Herbal Inducer, ST32DB, Against Obesity and Metabolic Dysfunction Through Lipogenic Transcription Factor ChREBP and White Adipocytes Trans-Differentiation Axis. **H-H. Chen, H. Lin.** Taipei Medical University, Taiwan.
- LB718** The Effect of the Endocrine Disrupting Chemical Bisphenol A on Pro-Opiomelanocortin, Circadian Rhythm and Neuroinflammatory Marker Gene Expression in Hypothalamic Cell Models. **A. Salehi, D.D. Belsham.** University of Toronto, Canada.
- LB719** Heat Shock Protein 72 Regulates Lipid Handling in Hepatocytes. **A.E. Archer, R.S. Rogers, J.L. Wheatley, H.M. Wilkins, R.H. Swerdlow, J.P. Thyfault, P.C. Geiger.** University of Kansas Medical Center.
- LB720** Investigation of Heat Production Deficiencies During Cold Stress and a Nonshivering Thermogenesis Challenge in Mice with a Deletion in N2A Titin. **C.A. Miyano, C.L. Buck, K. Nishikawa.** Northern Arizona University.
- LB721** Myometrial Response to Oxytocin Is Affected by Parity. **M. Porta, K. Sondgeroth.** Midwestern University.
- LB722** Effects of Calorie Restriction and Fiber Type on Glucose Uptake in Single Fibers from Old Rats. **H. Wang, E.B. Arias, C.S. Yu, A.R.P. Verkerke, G.D. Cartee.** University of Michigan.
- LB723** Mechanisms Underlying the Appetite-Regulatory Hormonal Response to High-Intensity Exercise: Potential Role of Lactate and Interleukin-6. **H. Islam, L.K. Townsend, G.L. McKie, P.J. Medeiros, B.J. Gurd, T.J. Hazell.** Queen's University, Canada, University of Guelph, Canada and Wilfrid Laurier University, Canada.
- LB724** Effects of Ketogenic Diet in Young Adult and Old Rats. **M.J. Duplisea, E.K. Wilson, E.C.K. Cheung, B.A. Parker, S.T. Carr, C.K. Ashby, B.T. Bikman, D.M. Thomson.** Brigham Young University.
- LB725** LKB1 Knockout in Skeletal Muscle Improves High Fat Diet-Induced Insulin Tolerance, but Not Glucose Tolerance. **T. Chen, D.M. Thomson.** Brigham Young University.
- LB726** Prior Treatment with the AMPK Activator AICAR Induces Subsequently Enhanced Glucose Uptake in Isolated Skeletal Muscles from Old Rats. **K. Oki, E.B. Arias, G.D. Cartee.** University of Michigan.
- LB727** Molecular Mechanism of Insulin Resistance in Offspring of Obese Fathers. **X. Liu, L. Consitt, F. Nowak, Y. Slyvka.** Ohio University.
- LB728** Atorvastatin Reduces Adipose Tissue Browning and Prolong Survival in Cancer Cachexia Mice. **F.S. Henriques, F. Franco, M. Lopes, Santos, A. Guilherme, M.L. Batista Junior.** University of Massachusetts Medical School and University of Mogi das Cruzes, Brazil.
- LB729** SOCS3-Luciferase Mice: A Model to Identify Mediators of Leptin Resistance. **E.L. Cordonier, T. Liu, K. Saito, S.S. Chen, Y. Xu, M. Fukuda.** Baylor College of Medicine and University of Texas Southwestern Medical Center.
- LB730** Metabolic Profiling and Physiological Monitoring in Hibernating Arctic Ground Squirrels During Ammonium Acetate Infusions. **S.A. Rice, A. D'Alessandro, K.L. Drew.** University of Alaska Fairbanks and University of Colorado School of Medicine.
- LB731** Regulation of Glucose Metabolism by Contractile Activity in Human Skeletal Muscle Myotubes from Severely Obese Individuals. **S. Park, J. Houmard.** East Carolina University.
- LB732** Human Antigen R (HuR) Regulates Structure and Function of Brown Adipose Tissue. **K. Yamamoto, L. Lanzillotta, S.R. Anthony, S. Jones, G. Yoshida, A.P. Owens III, M. Tranter.** University of Cincinnati.

### Environmental and Exercise Physiology

**LB733** The Role of Androgens in the Exercise Induced Decrease in Protein Breakdown. **M.L. Rossetti, B.S. Gordon.** University of Central Florida.

**LB734** Comparison Between High-Intensity and High-Volume Resistance Training on the Acute Myokine Response in Resistance Trained Men. **N. Coker, A.J. Wells, G.T. Mangine, D.D. Church, A.R. Jajtner, J.R. Townsend, K.S. Beyer, R. Wang, D.H. Fukuda, J.R. Stout, J.R. Hoffman.** University of Central Florida and Kennesaw State University.

**LB735** Chronic and Acute Effects of Hot Water Immersion on Strength, Recovery and Hypertrophy. **J. Peake, H. McGorm, L. Roberts, J. Coombes, D. Cameron-Smith, T. Raastad.** Queensland University of Technology, Australia, University of Queensland, Australia, University of Auckland, New Zealand and Norwegian School of Sports Science, Norway.

**LB736** Examining the Impact of Different Exercise Protocols on PGC-1 $\alpha$  and FNDC5 mRNA Expression in Human Skeletal Muscle. **J.T. Bonafiglia, B.A. Edgett, T.D. Scribbans, J.P. Little, B.J. Gurd.** Queen's University, Canada, University of Manitoba, Canada and University of British Columbia Okanagan, Canada.

**LB737** Exercise Training Regulates Autophagy in Aorta. **M. Okutsu, M. Yamada, T. Uto, C. Hokazono.** Nagoya City University, Japan.

**LB738** The Influence of *CYP1A2* Genotype on Caffeine Consumption Habits and Athletic Performance Enhancement in Collegiate Distance Runners. **J.J. Ye, E.E. Nagy, J.T. Millard.** Colby College and Middlebury College.

**LB739** Muscle Contractile Activity Regulates SDF-1 $\alpha$ /CXCL12 Expression in Skeletal Muscle. **M. Yamada, C. Hokazono, K. Tokizawa, S. Marui, M. Iwata, K. Suzuki, S. Miura, K. Nagashima, M. Okutsu.** Nagoya City University, Japan, National Institute of Occupational Safety and Health, Japan, Waseda University, Japan, Nihon Fukushi University, Japan and University of Shizuoka, Japan.

**LB740** Voluntary Wheel Running in Mice Is Safe During Vaccinia Virus Infection and Does Not Impair Vaccine Responses. **B.D. Pence, M.R. Ryerson, A.G. Bravo-Cruz, J.A. Woods, J.L. Shisler.** University of Memphis and University of Illinois at Urbana-Champaign.

**LB741** Body Mapping of Sweating Rate and Sweat Sodium Concentration in Athletes During Moderate Intensity Exercise: Relation Between Local and Whole Body. **L.B. Baker, K.A. Barnes, C.T. Ungaro, B.C. Sopeña, R.P. Nuccio, A.J. Reimel, J.R. Stofan, J.M. Carter.** Gatorade Sports Science Institute.

**LB742** The Effects of Vinyasa Yoga on Cardiovascular and Physical Fitness as Well as Psychological Profiles of Well-Being. **M. Choi, C. Marks, K. Landis-Piowar, C. Payter.** Oakland University.

**LB743** Human Umbilical Cord Mesenchymal Stem Cells Attenuate Heatstroke Injury in Rats. **M. Lin, C. Chang, C. Lin.** Chi Mei Medical Center, Taiwan, Meridigen Biotech Co. and Ltd., Taiwan.

**LB744** Heatstroke Causes Hypotension by Decreasing Both Mechanical Efficiency and Arterial Elastance in Rat. **C. Chang, M. Lin, B. Cheng.** Chi Mei Medical Center, Taiwan.

**LB745** Effects of Dietary Creatine Monohydrate Supplementation and Resistance Training on Late Onset Doxorubicin-Induced Skeletal Muscle Dysfunction and MyoD Expression. **B.A. Kugler, M.J. Capps, D.S. Hydock.** University of Northern Colorado.

**LB746** Attenuated Sweating Responses in Tattooed Skin During a Passive Whole-Body Heat Stress. **F.K. Pizzey, I.M. Parupia, D.R. Allen, M. Huang, M.J. Luetkemeier, S.L. Davis.** Southern Methodist University, Alma College and University of Texas Southwestern Medical Center.

**LB747** Cost of Locomotion During Loaded Marching in the Heat. **H. Tingelstad, B. Kehoe, E. Verdon, K. Seminuk, T. Reilly, F. Haman.** University of Ottawa, Canada, and Canadian Forces Moral and Welfare Service, Canada.

**LB748** Regulation of Erythropoietin Expression in Response to Exercise in Mouse and Human Skeletal Muscle. **B.A. Edgett, L. Farquharson, N. Romanova, K.R. Brunt, B.J. Gurd, J.A. Simpson.** Queen's University, Canada, University of Guelph, Canada, and Dalhousie University, Canada.

**LB749** Recovery of Running Wheel Activity in Nursing Dams. **R.J. Murphy, E.A. Welshhans, K.P. O'Hagan.** Midwestern University.

**LB750** The Effects of Exercise on Body Composition and Physical Performance Measures in College-Aged Men and Women with Intellectual Disabilities. **N.M. Ghassan Najm, E.D. Jesch.** Clemson University.

### Epithelial Transport

**LB751** Effects of Environmental Sodium Ion Concentration on the Activity of Na/K-ATPase; H-ATPase and Glutamate Dehydrogenase from the Gills of Fathead Minnows (*Pimephales promelas*). **R.K. Packer, I. Monroe, S.A. Wentworth, J.L. Garvin.** George Washington University and Case Western Reserve University.

**LB752** Ammonium Conductance in a Mouse Thick Ascending Limb Cell Line. **S. Lee, J. Park, I. Choi.** Emory University.

### Gastrointestinal and Liver Physiology

**LB753** Effects of Acute Luminal Perfusion of *Lactobacillus rhamnosus* GG on Mouse Small Intestinal Mucosa. **J.G. Veltri, B. Yang, S. Pearce, J. Occi, S. Husain, N. Gao, P. Soteropoulos, N. Connell, R. Ferraris.** Rutgers New Jersey Medical School and Rutgers University.

**LB754** Stromal Support of Pancreatic Tumor Metabolism. **C.A. Lyssiotis.** University of Michigan.

**LB755** A Role for Focal Adhesion Kinase in the Contraction of Murine Gastric Fundus Smooth Muscle Evoked by Cholinergic Neurotransmission. **Y. Xie, B. Perrino.** University of Nevada, Reno and School of Medicine.

**LB756** Gene Expression, Cell Differentiation and Gastric Functions: Can Dietary Changes During Postnatal Development Disturb the Growth Program in Rats? **P. Gama, M.T. Silva, K.M. Silva, G.M.A. Zonta, J.G. Zulian, D. Ogias.** University of Sao Paulo, Brazil.

**LB757** Effects of *Lactobacillus rhamnosus* on Uptake and Lipid Accumulation in Caco-2 Cells. **A.O. Ipinmoroti, E.M. Onyango.** East Tennessee State University.

### History of Physiology

**LB758** Historical Perspective of Therapeutic Electricity. **D.P. M. Dias, R. Fazan Jr., H.C. Salgado.** Ribeirao Preto Medical School—University of Sao Paulo, Brazil.

### Hypoxia

**LB759** *S. aureus* Induction of Hif1 $\alpha$  Drives Airway Epithelial Inflammatory Signaling. **A. Jurado, M. Wickersham, T. Wong Fok Lung, A. Miller, D. Parker, A. Prince.** Columbia University.

### Microcirculation

**LB760** Rupture of Cancer Cells Under Microcirculatory Conditions. **N. Kamyabi, S. Vanapalli.** Texas Tech University.

**LB761** Experimental Oxidative Stress-Induced Death of Erythrocytes. **E.Y. Senchenkova, E. Skvertchinskaya, I. Dobrylko, J. Sudnitsyna, S. Gambaryan, I. Mindukshev, F. Gavins.** Louisiana State University Health Sciences Center Shreveport and I.M. Sechenova Institute of Evolutionary Physiology and Biochemistry (IEPB), Russian Federation.

**LB762** Doxycycline Blocks Matrixmetalloproteinase-9 and Attenuates Blood-Brain Barrier Dysfunction and Hyperpermeability After Traumatic Brain Injury. **B.D. Robinson, A. Lomas, C. Anasooya Shaji, C.L. Isbell, B. Tharakan.** Baylor Scott and White Health and Texas A&M University Health Science Center College of Medicine.

**LB763** Role of the Free Fatty Acid 4 Receptor in Endothelial Cell Responses to Oleic Acid. **K. Rogers, D. Davis, D. Kurjiaka.** Grand Valley State University.

**LB764** Quantification of Sulfide in the Human Cutaneous Microcirculation Bioassay: Methylene Blue Assay Versus an Amperometric Sensor. **S. Shank, L. Alexander, R. Castro.** The Pennsylvania State University and Universidade de Lisboa, Portugal.

**LB765** Reversing Glycocalyx Degradation; Identification of a Pharmacological Target to Improve Endothelial Function in Type II Diabetes. **C.A. Foote, J.A. Castorena-Gonzalez, J. Padilla, J.R. Sowers, L.A. Martinez-Lemus.** University of Missouri and Harry S. Truman Memorial Veterans Hospital.

### Muscle Biology

**LB766** Curcumin Reduces Muscle Damage and Soreness Following Muscle-Damaging Exercise. **R. Jäger, A.R. Caldwell, E. Sanders, J.B. Mitchell, J. Rogers, M. Purpura, J.M. Oliver.** Inrenovo LLC, Texas Christian University, and Summit Analytical LLC.

**LB767** Identification of mRNAs Responsive to Leucine in Skeletal Muscle of Rats—A Deep-Sequencing Approach. **J.G. Silvestre, A. Cruz, M.R. Bento, F.A. Graça, A.S. Moriscot.** University of Sao Paulo, Brazil.

**LB768** Limited Activity-Dependent Changes in NMJ Structure and Function During Aging. **S. Barbat-Artigas, R. Robitaille.** Université de Montréal, Canada, and Groupe de Recherche sur le Système Nerveux Central, Canada.

**LB769** Androgens Alter Mitophagy in the Refed Metabolic State. **J.L. Steiner, M.L. Rossetti, B.S. Gordon.** Pennsylvania State University College of Medicine and University of Central Florida.

**LB770** Intermittent Spontaneous Breathing Prevents Mechanical Ventilation-Induced Diaphragm Atrophy and Dysfunction. **N. Ichinoseki-Sekine, T. Yoshihara, T. Tsuzuki, A. Morton, M.J. Hinkley, S.K. Powers, H. Naito.** Juntendo University, Japan, The Open University of Japan, Japan, and University of Florida.

**LB771** Vastus Lateralis Motor Unit Firing Rate Statistics During Fatigue in Younger Versus Older Adults. **M.S. Stock, J.A. Mota.** University of Central Florida and University of North Carolina at Chapel Hill.

**LB772** Microtubule-Targeting Chemotherapy Causes Mitochondrial Dysfunction in Heart and Skeletal Muscle. **S.V. Ramos, M.C. Hughes, C.G.R. Perry.** York University, Canada.

**LB773** KLF15 Is Modulated by Leucine in Skeletal Muscle Submitted to Immobilization in Rats. **F.A. Graça Zuanazzi, M. Bento, J.G. Silvestre, A.S. Moriscot.** Institute of Biomedical Sciences, University of São Paulo, Brazil

**LB774** The Mechanism of Exercise Preventing Skeletal Muscle Atrophy. **N. Theilen, G. Kunkel, N. Jeremic, S. Tyagi.** University of Louisville School of Medicine.

**LB775** CTFR-Associated ATP Release in Neonatal and Adult Skeletal Myoblasts. **T.H.E. Wu, H J. Ballard.** The University of Hong Kong, Hong Kong.

**LB776** A Possible Role of Skeletal Muscle-Derived Adiponectin in the Regulation of Skeletal Muscle Mass. **K. Goto, R. Ito, M. Higa, S. Yokoyama, T. Sugiura, H. Miyata, Y. Ohira, T. Yoshioka.** Graduate School of Health Sciences, Toyohashi Sozo University, Japan, Yamaguchi University, Japan, Graduate School of Sport and Health Science, Doshisha University, Japan, and Hiroasaki Gakuin University, Japan.

**LB777** The Role of Hydrogen Peroxide Production in Skeletal Muscle Dysfunction Following Nerve Crush. **C.A. Staunton, N. Pollock, A. Vasilaki, R. Barrett-Jolley, A. McArdle, M.J. Jackson.** University of Liverpool, United Kingdom.

**LB778** Neuromuscular Regeneration Following Whole Muscle Transplantation. **N. Pollock, C.S. Davis, C.A. Hassett, C.A. Staunton, A. Vasilaki, M.J. Jackson, S.V. Brooks, A. McArdle.** University of Liverpool, United Kingdom, and University of Michigan.

**LB779** Anti-Inflammatory Cytokine Receptor Prevents Muscle Atrophy. **Y. Kwon, Y. Son, S. Park, J. Lee.** Dongguk University, Republic of Korea.

**LB780** Diaphragm Neuromuscular Transmission Dysfunction in Chronic Heart Failure. **R.C. Kelley, P.D. Coblenz, L.F. Ferreira.** University of Florida.

- LB781** The Role of Hippo Signaling Pathway on Muscle Wasting in *ApcMin/+* Mice: A Pilot Study. **J.L. Gooden, B.W. Lim, S. Sato.** University of Louisiana at Lafayette.
- LB782** Proteasome Activity Is Required for Ribosomal DNA Transcription and Muscle Hypertrophy. **P.N. Chandler, C. Liu, F. von Walden, G.A. Nader.** Penn State University.
- LB783** Cigarette Smoke Exposure Induces Diaphragm Atrophy That Partially Regresses Following Cessation. **A. Foster, M.R. Stampfli, J.A. Simpson.** University of Guelph, Canada, and McMaster University, Canada.
- LB784** Muscle ULK1 and ULK2 Modulate Different Aspects of Autophagy and Are Required for Atrophy During Fasting. **C. Mere, J. Fuqua, J. Blomme, V. de Melo, A. Kronemberger, V.A. Lira.** University of Iowa and Universidade Federal de Sergipe, Brazil.
- LB785** ICAM-1 Augments Myoblast Adhesion and Fusion Through Homophilic Trans-Interactions and GTPase Rac Activity. **R. Martin, E. Springer, M. Leffler, B. Woelmer, D. Leaman, F. Pizza.** University of Toledo.
- LB786** ICAM-1 Augments Myoblast Fusion Through Homophilic Interactions. **E. Springer, R. Martin, M. Leffler, B. Woelmer, D. Leaman, F.X. Pizza.** University of Toledo.
- LB787** Recovery from Fatigue and Injury in Rat Muscle Imbedded with Heavy Metals. **L. Michaelson, R.M. Lovering, C.E. Kasper.** Department of Veterans Affairs, Uniformed Services University of the Health Sciences, and University of Maryland School of Medicine.
- LB788** Using Bisulfite Conversion of RNA with RT-PCR to Unambiguously Quantify Expression of Overlapping Sense and Antisense RNA in Skeletal Muscle. **L.A. Theodore, C.A. Gilbert, C.E. Pandorf.** Mercer University and Mercer University School of Medicine.
- LB789** The Role of IP-10 in Chronic Fatigue Syndrome. **A. McArdle, A. Gusnanto, K. Earl, G. Sakellariou, C. Lawton, D. Owens, G. Close, M. Beadsworth, L. Dye.** University of Liverpool, United Kingdom, University of Leeds, United Kingdom, and Liverpool John Moores University, United Kingdom.
- LB791** Impact of Metaboreflex Activation on Cerebrovascular Reactivity Index in Healthy Young Men. **P.M. Maia-Lopes, A.L. Teixeira, D. Antonino, M.C. Souza, D.R. Ricardo, P.S. Ramos, L.C. Vianna.** University of Brasilia, Brazil and Faculty of Medical and Health Sciences (SUPREMA), Brazil.
- LB792** Neurons of the Arcuate Nucleus in Mice Express Angiotensinogen. **S.A. Sapouckey, K.E. Claffin, K.N. Gibson-Corley, J.L. Grobe.** University of Iowa.
- LB793** Association Between Telomere Length and Autonomic Functions: Applying Psychological and Physiological Measures. **N. Kim, J.Y. Sung, D-K. Kim.** Keimyung University, Republic of Korea.
- LB794** Deletion of Brain-Specific Isoform of Renin (Renin-b) Increases Resting Metabolic Rate by Stimulating Brown Adipose Tissue Sympathetic Nerve Activity. **P. Nakagawa, J. Gomez, K. Shinohara, D.A. Morgan, B.J. Weidemann, J.L. Grobe, K. Rahmouni, C.D. Sigmund.** University of Iowa.
- LB795** Role of GABA Receptors in the Postganglionic Regulation of Salivation. **J. Lee, D. Giovannucci.** University of Toledo College of Medicine.
- LB796** Rats Deficient in Tryptophan Hydroxylase 2 (*5HT<sup>ph2/-</sup>* Rats) Show Altered Pulmonary Neuroendocrine Cells (PNECs), Reduced Resting Ventilation and Altered Hypoxic and Hypercapnic Chemoreflexes. **G.C. Mouradian, M. Dillard, K. Kaplan, G. Thuku, N. Uche, M.R. Hodges.** Medical College of Wisconsin.
- LB797** Insulin Increases Respiration Rate in Healthy Young Men. **T.C. Barbosa, S.W. Holwerda, C.N. Young, J.P. Thyfault, P.J. Fadel.** University of Texas Arlington, University of Iowa, George Washington University and University of Kansas Medical Center.
- LB798** Cholinergic Signaling in the Forebrain Regulates Peripheral Inflammation. **V.A. Pavlov, K.R. Lehner, S.S. Chavan, V.F. Prado, M.A.M. Prado, K.J. Tracey.** Hofstra Northwell School of Medicine at Hofstra University, The Feinstein Institute for Medical Research, Robarts Research Institute, Canada, and The University of Western Ontario, Canada.
- LB799** Transduction of Sympathetic Nerve Activity to Blood Pressure in Type 2 Diabetes Patients. **B.E. Young, S.W. Holwerda, J.R. Vranish, C.E. Newby, D.M. Keller, E.C. Hart, P.J. Fadel.** University of Texas at Arlington, University of Iowa and University of Bristol, United Kingdom.
- LB800** Color Vision and Signal Color Evolution in *Anolis* Lizards. **K.J. Maximov, C. Wadman.** Union College.
- LB801** Influence of Spinal Neurotransmission on Renal Sympathetic Nerve Activity in Renovascular Hypertension. **R.R. Campos, M.I. Milanez, E.E. Nishi, C.T. Bergamaschi.** Universidade Federal de São Paulo–Escola Paulista de Medicina, Brazil.

### **Neural Control and Autonomic Regulation**



**LB802** Orexin A Receptor 1 (OX1R) Activation Increases CamK2 Expression in PC12 Cells. **Y. Fan, E. Jiang, Q. Chen, Z. Shan.** Michigan Technological University, and Xi'an Jiaotong University, People's Republic of China.

**LB803** Slicing Orexin Receptor 1 in Paraventricular Nucleus Decreased Hypertension in Obesity Zucker Rats. **J-J. Zhou, Y. Zhang, D-P. Li.** MD Anderson Cancer Center, and Hebei Medical University, People's Republic of China.

**LB804** Blood Pressure and Cerebral Blood Flow Following Concussion: Implications for Diagnosis. **A. Knox, M. Falvo, M. Favre, J. Serrador.** Rutgers University.

**LB805** Integrated Sigma Dynamics Quantum Energy Therapy Presented by Mathematical Function and Matrices in Immunologic Stimulation. **G.P. Einstein, O.L. Tulp.** Einstein Medical Institute and University of Science, Arts, and Technology Montserrat.

### Nutrition Physiology

**LB806** Effect of a Pre-Dinner Snack on Buffet Meal Caloric Consumption in College Freshman. **S.A. Schmitz, P.L. Sebranek, S.E. Kern, M.B. Hoppe, H.J. Scott, A.C. Eastep, I.E. Horwath, T. Wilson.** Winona State University.

**LB807** A Mathematical Model for the Population Dynamics of Intestinal Microbiota: Obese Versus Healthy Gastrointestinal Tract. **F. Giron, A. Pizano, P. Calvachi, J.M. Cordovez.** Universidad de los Andes, Colombia.

**LB808** The Human Milk Oligosaccharide 3-Fucosyllactose Facilitates Preservation of Nitric Oxide-Induced Vasodilation in Aortic Vessels In Vitro. **S. Varadharaj, M. Helal, G.O. Duska-McEwen, J. Boslett, S.L. Pereira, R.H. Buck, N. Ahmed, J.L. Zweier.** Abbott Nutrition and The Ohio State University.

**LB809** Paleolithic Diet and Exercise Improve Metabolic and Cardiovascular Risk Factors. **M. Baker, A. Eason, L. Miutz, A.M. Gyorkos.** Grand Valley State University.

**LB810** The Effects of a Ketogenic Diet and Exercise Interventions on Cognitive Function. **L.N. Miutz, M. Baker, A. Eason, A. Gyorkos.**

**LB811** Excessive Thiol Nitrosylation Predisposes to Western Diet-Induced Redox Imbalance and Erectile Dysfunction. **J. La Favor, D. Soetkamp, V. Venkatraman, T. Bivalacqua, J. Van Eyk, A. Burnett.** Johns Hopkins University and Cedars-Sinai Medical Center.

**LB812** Effects of an Acute High Fat Load on Peripheral Blood Mononuclear Cell Response Among Women. **R.C. Pearson, L. Winchester, A. Olenick, J. Johnson, N. Shaker, M. Blankenship, E. Oregon, D. Hoover, J.M. Maples.** Western Kentucky University.

**LB813** The Effects of Acetate on Enhancing the Proliferation and Preadipocyte Differentiation of Stromal Vascular Cells Isolated from Hanwoo Beef Cattle. **D. Baatar, T.G. Wandita, J.F. dela Cruz, S.G. Hwang.** Hankyong National University, Republic of Korea, and University of the Philippines, Philippines.

### Physiological Genomics

**LB814** Evaluation of Patient-Specific *MTERF4* Variants in Gene-Edited Human iPSC-Derived Cardiomyocytes. **M. Marquez, C. McDermott-Roe, M. Grysbowski, D. Helbling, D.P. Dimmock, J.W. Verbsky, A.M. Geurts.** Medical College of Wisconsin, Cardiovascular Institute and University of Pennsylvania.

### Renal Physiology

**LB815** Progression of Experimental Autoimmune Encephalomyelitis Is Associated with Up-Regulation of Major Sodium Transporters in the Mouse Kidney Cortex Under a Normal Salt Diet. **X. Zhou, B. Packialakshmi, Y. Xiao, S. Nurmukhambetova, J.R. Lees.** Uniformed Services University.

**LB816** Hypercapnia Upregulates Expression of the  $\text{NH}_3/\text{NH}_4^+$  Transporter Rhbg in the Kidney. **N.L. Nakhoul, K. Hering-Smith, L.L. Hamm, M.T. Islam, S. Abdulnour-Nakhoul.** Tulane University/Southeast Louisiana Veterans Health Care System.

**LB817** Hyperglycemia Induced by Chronic Intraperitoneal and Oral Glucose Loading Leads to Hypertension Through Proximal Tubule Oxidative Stress- and Angiotensin II-Mediated  $\text{Na}^+$ -Retention. **S. Fakhruddin, W. Alanazi, K.E. Jackson.** University of Louisiana at Monroe.

**LB818** Podocyte ZHX2 Expression Is Important in the Development of Focal Segmental Glomerulosclerosis and Minimal Change Disease. **M.N. Del Nogal Avila, H. Donoro Blazquez, C.B. Marshall, C. Avila Casado, C.E. Mace, L.C. Clement, S.S. Chugh.** Rush University Medical Center, University of Alabama at Birmingham and University of Toronto, Canada.

**LB819** Human and Murine Precision-Cut Kidney Slices as a Tool to Study the Inflammatory Pathogenesis of Renal Disease. **H.A.M. Mutsaers, E.G.D. Stribos, R. Nørregaard, P. Olinga.** University of Groningen, Netherlands and Aarhus University, Denmark.

**LB820** Endothelial Marker Expressing Stromal Cells Play a Critical Role in Recovery Following Acute Kidney Injury. **K. Maringer, S. Sims-Lucas.** University of Pittsburgh.

**LB821** Urine Electrolyte Excretion in a Hypertensive Population of East Africans. **A. Dobrovolskaite, N.A. Rice.** Western Kentucky University.

**LB822** Vasoactive Effects of P2X7 Receptors in the Aorta of Control and Hypertensive Mice. **A.R. Howarth, R.I. Menzies, B.R. Conway, M.A. Bailey.** University of Edinburgh, United Kingdom.

**LB823** The Local Vascular Activity of Norepinephrine (NE) in Renal Perivascular Adipose Tissue (PVAT). **C.B. Restini, R. Burnett, G.D. Fink, S.W. Watts.** Michigan State University and University of Ribeirao Preto, Brazil.

**LB824** EHD4 Regulates Renal Urea Handling in Mice. **S.S. Rahman, M. Storck, H. Band, E. Boesen.** University of Nebraska Medical Center.

**LB825** Racial Differences in Serum Cystatin-C Following Antenatal Corticosteroid Exposure. **L.M. Zerihun, P.A. Nixon, L.K. Washburn, T.M. Gwathmey.** Wake Forest School of Medicine.

### Respiration

**LB826** Chloroquine Is a Potent Pulmonary Vasodilator That Attenuates Hypoxia-Induced Pulmonary Hypertension. **K. Wu.** Medicine.

**LB827** Developmental Changes in Respiratory Inductance Plethysmography (RIP) Parameters. **T.H. Shaffer, S. Balasubramanian, Y. Wang, T. Rahman.** A.I. duPont Hospital for Children.

**LB828** Human Immunodeficiency Virus Transgene Expression (HIV-1 TG) Decreases MicroRNAs Targeting 5-Lipoxygenase (ALOX5) and Increases Endothelial Dysfunction. **B. Kang, S. Chang, J. Ma, C. Hart, R.L. Sutliff.** Atlanta Veterans Affairs and Emory University Medical Centers.

**LB829** P2X3 Receptor Antagonism Reduces the Occurrence of Apnoeas in Newborn Rats. **P.L. Katayama, I. Charles, W. Pijacka, A. Abdala, H.C. Salgado, A.P. Ford, J.F. R. Paton.** Ribeirão Preto Medical School, University of São Paulo, Brazil, University of Bristol, United Kingdom, and Afferent Pharmaceuticals.

**LB830** Behaviorally Inhibited Individuals Exhibit Greater Minute Ventilation and Breathing Frequency Than Non-Inhibited Individuals when Breathing 4.5% CO<sub>2</sub>. **E. Patschorke, A. Evenhouse, A. Grove, M. Kathryn, N. Santos, M. Masini, M. Harris, K. Robinson, J. Williams, L. Ferdman, K. Buchholz, T. Nicosia, J.R. Miller, D.P. Miller, P.F. Martino, R.J. Servatius.** Carthage College and Stress and Motivation Behavior Institute.

**LB831** Expiratory Muscle Activation via High Frequency Spinal Cord Stimulation. **K.E. Kowalski, J.R. Romaniuk, S.W. Brose, M.A. Richmond, T. Kowalski, A.F. DiMarco.** MetroHealth Medical Center, Case Western Reserve University, and VA Medical Center.

**LB832** Nutrition Versus Functional Respiratory Capacity: A Cardinal Interplay. **K. Chakrabarty, D.K. Gautam, S. Guha, A. Arora, A. Das, D. Aggarwal, D. Gulati, H. Sharma, N. Yadav, R. Chakraborty, S. Thapliyal, U. Rathi, V. Chaudhary.** Hansraj College and University of Delhi, India.

**LB833** Hypoxia and Endothelin-1 Decrease Expression of the Extracellular Matrix Protein, Cartilage Oligomeric Matrix Protein, a Potential Modulator of Iron Metabolism in Pulmonary Arteries. **H. Yu, M.S. Wolin.** New York Medical College, and Harbin Medical University–Daqing, People's Republic of China.

**LB834** Buccal Rhythm Generation in Metamorphic Bullfrogs Is Dependent on Glycine. **M. Reed, K. Iceman, T. Varier, M. Harris, B. Taylor.** University of Alaska Fairbanks, Valparaiso University and California State University at Long Beach.

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