

## Minireview

- 1489 **A Biologist's Field Guide to Multiplexed Quantitative Proteomics**  
*Corey E. Bakalarski and Donald S. Kirkpatrick*

## Research

- 1498 **Methylthioadenosine (MTA) Regulates Liver Cells Proteome and Methylproteome: Implications in Liver Biology and Disease**  
[S] *Emilie Bigaud and Fernando J. Corrales*
- 1511 **Comparative Phosphoproteomics Analysis of VEGF and Angiopoietin-1 Signaling Reveals ZO-1 as a Critical Regulator of Endothelial Cell Proliferation**  
[S] *Rony Chidiac, Ying Zhang, Sylvain Tessier, Denis Faubert, Chantal Delisle, and Jean-Philippe Gratton*
- 1526 **An Impaired Respiratory Electron Chain Triggers Down-regulation of the Energy Metabolism and De-ubiquitination of Solute Carrier Amino Acid Transporters**  
[S] ✎ *Ina Aretz, Christopher Hardt, Ilka Wittig, and David Meierhofer*
- 1539 **Bacterial Interactomes: Interacting Protein Partners Share Similar Function and Are Validated in Independent Assays More Frequently Than Previously Reported**  
[S] *Maxim Shatsky, Simon Allen, Barbara L. Gold, Nancy L. Liu, Thomas R. Juba, Sonia A. Reveco, Dwayne A. Elias, Ramadevi Prathapam, Jennifer He, Wenhong Yang, Evelin D. Szakal, Haichuan Liu, Mary E. Singer, Jil T. Geller, Bonita R. Lam, Avneesh Saini, Valentine V. Trotter, Steven C. Hall, Susan J. Fisher, Steven E. Brenner, Swapnil R. Chhabra, Terry C. Hazen, Judy D. Wall, H. Ewa Witkowska, Mark D. Biggin, John-Marc Chandonia, and Gareth Butland*
- 1556 **Deubiquitylation of Protein Cargo Is Not an Essential Step in Exosome Formation**  
[S] *Alyssa R. Huebner, Lei Cheng, Poorichaya Somparn, Mark A. Knepper, Robert A. Fenton, and Trairak Pisitkun*
- 1572 **Quantitative Proteomics Analysis Reveals the Min System of *Escherichia coli* Modulates Reversible Protein Association with the Inner Membrane**  
[S] ✎ *Hsiao-Lin Lee, I-Chen Chiang, Suh-Yuen Liang, Der-Yen Lee, Geen-Dong Chang, Kwan-Yu Wang, Shu-Yu Lin, and Yu-Ling Shih*
- 1584 **Proteomic Analysis Reveals Branch-specific Regulation of the Unfolded Protein Response by Nonsense-mediated mRNA Decay**  
[S] *Jana Sieber, Christian Hauer, Madhuri Bhuvanagiri, Stefan Leicht, Jeroen Krijgsveld, Gabriele Neu-Yilik, Matthias W. Hentze, and Andreas E. Kulozik*
- 1598 **Determination of the Stoichiometry of the Complete Bacterial Type III Secretion Needle Complex Using a Combined Quantitative Proteomic Approach**  
[S] *Susann Zilkenat, Mirita Franz-Wachtel, York-Dieter Stierhof, Jorge E. Galán, Boris Macek, and Samuel Wagner*

On the cover: A set of kinase inhibitors directed at known pathways (top) were introduced to cells. Phosphosignatures from the novel P100 sentinel assay are shown after 3, 6, or 24 hours of treatment (middle). Correlation of all samples demonstrates strong signals in the assay, and off-diagonal correlation reinforces the hypothesized modularity of the pathway into MAPK, PI3K/mTOR, and Cell Cycling modules (bottom). For details, see the article by Jennifer G. Abelin, *et al.*, pages 1622–1641.

- 1610 **General Assessment of Humoral Activity in Healthy Humans**  
 [S] *Phillip Stafford, Daniel Wrapp, and Stephen Albert Johnston*
- 1622 **Reduced-representation Phosphosignatures Measured by Quantitative Targeted MS Capture Cellular States and Enable Large-scale Comparison of Drug-induced Phenotypes**  
 [S] *Jennifer G. Abelin, Jinal Patel, Xiaodong Lu, Caitlin M. Feeney, Lola Fagbami, Amanda L. Creech, Roger Hu, Daniel Lam, Desiree Davison, Lindsay Pino, Jana W. Qiao, Eric Kuhn, Adam Officer, Jianxue Li, Susan Abbatiello, Aravind Subramanian, Richard Sidman, Evan Snyder, Steven A. Carr, and Jacob D. Jaffe*
- 1642 **In Vivo Interaction Proteomics in *Caenorhabditis elegans* Embryos Provides New Insights into P Granule Dynamics**  
 [S] *Jia-Xuan Chen, Patricia G. Cipriani, Desirea Mecenas, Jolanta Polanowska, Fabio Piano, Kristin C. Gunsalus, and Matthias Selbach*
- 1658 **Proteomic Analysis of the Mammalian Katanin Family of Microtubule-severing Enzymes Defines Katanin p80 subunit B-like 1 (KATNBL1) as a Regulator of Mammalian Katanin Microtubule-severing**  
 [S] ✎ *Keith Cheung, Silvia Senese, Jiaen Kuang, Ngoc Bui, Chayanid Ongpipattanakul, Ankur Gholkar, Whitaker Cohn, Joseph Capri, Julian P. Whitelegge, and Jorge Z. Torres*
- 1670 **Natural Genetic Variation Differentially Affects the Proteome and Transcriptome in *Caenorhabditis elegans***  
 [S] *Polina Kamkina, L. Basten Snoek, Jonas Grossmann, Rita J. M. Volkers, Mark G. Sterken, Michael Daube, Bernd Roschitzki, Claudia Fortes, Ralph Schlappbach, Alexander Roth, Christian von Mering, Michael O. Hengartner, Sabine P. Schrimpf, and Jan E. Kammenga*
- 1681 **Quantitative Proteomics Reveals  $\beta$ 2 Integrin-mediated Cytoskeletal Rearrangement in Vascular Endothelial Growth Factor (VEGF)-induced Retinal Vascular Hyperpermeability**  
 [S] *Dong Hyun Jo, Jingi Bae, Sehyun Chae, Jin Hyoung Kim, Jong-Hee Han, Daehee Hwang, Sang-Won Lee, and Jeong Hun Kim*
- 1692 **Global Protein Oxidation Profiling Suggests Efficient Mitochondrial Proteome Homeostasis During Aging**  
 [S] *Carina Ramallo Guevara, Oliver Philipp, Andrea Hamann, Alexandra Werner, Heinz D. Osiewacz, Sascha Rexroth, Matthias Rögner, and Ansgar Poetsch*
- 1710 **Novel Entropically Driven Conformation-specific Interactions with Tomm34 Protein Modulate Hsp70 Protein Folding and ATPase Activities**  
 [S] *Michal Durech, Filip Trcka, Petr Man, Elizabeth A. Blackburn, Lenka Hernychova, Petra Dvorakova, Dominika Coufalova, Daniel Kavan, Borivoj Vojtesek, and Petr Muller*
- 1728 **Ataxin-2 (Atxn2)-Knock-Out Mice Show Branched Chain Amino Acids and Fatty Acids Pathway Alterations**  
 [S] ✎ *David Meierhofer, Melanie Halbach, Nesli Ece Şen, Suzana Gispert, and Georg Auburger*

## Technological Innovation and Resources

- 1740 **A Novel Systems-Biology Algorithm for the Analysis of Coordinated Protein Responses Using Quantitative Proteomics**  
 [S] *Fernando García-Marqués, Marco Trevisan-Herraz, Sara Martínez-Martínez, Emilio Camafeita, Inmaculada Jorge, Juan Antonio Lopez, Nerea Méndez-Barbero, Simón Méndez-Ferrer, Miguel Ángel del Pozo, Borja Ibáñez, Vicente Andrés, Francisco Sánchez-Madrid, Juan Miguel Redondo, Elena Bonzon-Kulichenko, and Jesús Vázquez*
- 1761 **Probabilistic Segmentation of Mass Spectrometry (MS) Images Helps Select Important Ions and Characterize Confidence in the Resulting Segments**  
 [S] ✎ *Kyle D. Bemis, April Harry, Livia S. Eberlin, Christina R. Ferreira, Stephanie M. van de Ven, Parag Mallick, Mark Stolowitz, and Olga Vitek*

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