

Research

- 919 **Protein Profiles Associated With Context Fear Conditioning and Their Modulation by Memantine**
Md. Mahiuddin Ahmed, A. Ranjitha Dhanasekaran, Aaron Block, Suhong Tong, Alberto C. S. Costa, and Kathleen J. Gardiner
- 938 **Combined Proteomic and Transcriptomic Interrogation of the Venom Gland of *Conus geographus* Uncovers Novel Components and Functional Compartmentalization**
Helena Safavi-Hemami, Hao Hu, Dhana G. Gorasia, Pradip K. Bandyopadhyay, Paul D. Veith, Neil D. Young, Eric C. Reynolds, Mark Yandell, Baldomero M. Olivera, and Anthony W. Purcell
- 954 **Mass Spectrometry-based Workflow for Accurate Quantification of *Escherichia coli* Enzymes: How Proteomics Can Play a Key Role in Metabolic Engineering**
Mathieu Trauchessec, Michel Jaquinod, Aline Bonvalot, Virginie Brun, Christophe Bruley, Delphine Ropers, Hidde de Jong, Jérôme Garin, Gwenaëlle Bestel-Corre, and Myriam Ferro
- 969 **The Interplay of Light and Oxygen in the Reactive Oxygen Stress Response of *Chlamydomonas reinhardtii* Dissected by Quantitative Mass Spectrometry**
Johannes Barth, Sonja Verena Bergner, Daniel Jaeger, Anna Niehues, Stefan Schulze, Martin Scholz, and Christian Fufezan
- 990 **Cleavage of E-Cadherin and β -Catenin by Calpain Affects Wnt Signaling and Spheroid Formation in Suspension Cultures of Human Pluripotent Stem Cells**
Sarah A. Konze, Laura van Diepen, Anke Schröder, Ruth Olmer, Hanna Möller, Andreas Pich, Robert Weißmann, Andreas W. Kuss, Robert Zweigerdt, and Falk F. R. Buettner
- 1008 **Comprehensive Absolute Quantification of the Cytosolic Proteome of *Bacillus subtilis* by Data Independent, Parallel Fragmentation in Liquid Chromatography/Mass Spectrometry (LC/MS^F)**
Jan Muntel, Vincent Fromion, Anne Goelzer, Sandra Maaß, Ulrike Mäder, Knut Büttner, Michael Hecker, and Dörte Becher
- 1020 **Quantitation of Human Metallothionein Isoforms: A Family of Small, Highly Conserved, Cysteine-rich Proteins**
Aaron A. Mehus, Wallace W. Muhonen, Scott H. Garrett, Seema Somji, Donald A. Sens, and John B. Shabb
- 1034 **Phosphoprotein Secretome of Tumor Cells as a Source of Candidates for Breast Cancer Biomarkers in Plasma**
Anna M. Zawadzka, Birgit Schilling, Michael P. Cusack, Alexandria K. Sahu, Penelope Drake, Susan J. Fisher, Christopher C. Benz, and Bradford W. Gibson
- 1050 **Proteomics Analysis of Cancer Exosomes Using a Novel Modified Aptamer-based Array (SOMAscanTM) Platform**
Jason Webber, Timothy C. Stone, Evaldas Katilius, Breanna C. Smith, Bridget Gordon, Malcolm D. Mason, Zsuzsanna Tabi, Ian A. Brewis, and Aled Clayton

On the cover: Metallothioneins are small, highly conserved cysteine rich proteins important for metal homeostasis. The twelve human isoforms, potential biomarkers for heavy metal toxicity and cancer, present special challenges for quantitative proteomics. Here, the unique N-terminal-acetylated tryptic peptides, representing a third of the intact protein and containing five cysteines each, are isolated and analyzed as a distinct cluster of peptides by LC-MS. For details, see the article by Aaron A. Mehus et al., pages 1020–1033.

- 1065 **A Targeted Quantitative Proteomics Strategy for Global Kinome Profiling of Cancer Cells and Tissues**
[S] *Yongsheng Xiao, Lei Guo, and Yinsheng Wang*
- 1076 **Post-transcriptional Regulation of Human Breast Cancer Cell Proteome by Unliganded Estrogen Receptor β via microRNAs**
[S] *Giovanni Nassa, Roberta Tarallo, Giorgio Giurato, Maria Rosaria De Filippo, Maria Ravo, Francesca Rizzo, Claudia Stellato, Concetta Ambrosino, Marc Baumann, Niina Lietzèn, Tuula A. Nyman, and Alessandro Weisz*
- 1091 **Soluble and Catalytically Active Endothelin Converting Enzyme-1 is Present in Cerebrospinal Fluid of Subarachnoid Hemorrhage Patients**
Sanjaya Kuruppu, Sherry H.-Y. Chou, Steven K. Feske, Sarah Suh, Iresha Hanchapola, Eng H. Lo, MingMing Ning, and A. Ian Smith
- 1095 **A Temporal Examination of the Planktonic and Biofilm Proteome of Whole Cell *Pseudomonas aeruginosa* PAO1 Using Quantitative Mass Spectrometry**
[S] *Amber J. Park, Kathleen Murphy, Jonathan R. Krieger, Dyanne Brewer, Paul Taylor, Marc Habash, and Cezar M. Khursigara*

Technological Innovation and Resources

- 1106 **Stable Isotope Labeling of Phosphoproteins for Large-scale Phosphorylation Rate Determination**
[S] *Rosalynn C. Molden, Jonathan Goya, Zia Khan, and Benjamin A. Garcia*
- 1119 **Advancing the High Throughput Identification of Liver Fibrosis Protein Signatures Using Multiplexed Ion Mobility Spectrometry**
[S] *Erin Shammel Baker, Kristin E. Burnum-Johnson, Jon M. Jacobs, Deborah L. Diamond, Roslyn N. Brown, Yehia M. Ibrahim, Daniel J. Orton, Paul D. Piehowski, David E. Purdy, Ronald J. Moore, William F. Danielson, III, Matthew E. Monroe, Kevin L. Crowell, Gordon W. Slysz, Marina A. Gritsenko, John D. Sandoval, Brian L. LaMarche, Melissa M. Matzke, Bobbie-Jo M. Webb-Robertson, Brenna C. Simons, Brian J. McMahon, Renuka Bhattacharya, James D. Perkins, Robert L. Carithers, Jr., Susan Strom, Steven G. Self, Michael G. Katze, Gordon A. Anderson, and Richard D. Smith*
- 1128 **Combinatorial Approach for Large-scale Identification of Linked Peptides from Tandem Mass Spectrometry Spectra**
[S] *Jian Wang, Veronica G. Anania, Jeff Knott, John Rush, Jennie R. Lill, Philip E. Bourne, and Nuno Bandeira*
- 1137 **Simplified and Efficient Quantification of Low-abundance Proteins at Very High Multiplex via Targeted Mass Spectrometry**
[S] *Michael W. Burgess, Hasmik Keshishian, D. R. Mani, Michael A. Gillette, and Steven A. Carr*

AUTHOR INDEX

- Ahmed, Md. Mahiuddin, 919
Ambrosino, Concetta, 1076
Anania, Veronica G., 1128
Anderson, Gordon A., 1119
- Baker, Erin Shammel, 1119
Bandeira, Nuno, 1128
Bandyopadhyay, Pradip K., 938
Barth, Johannes, 969
Baumann, Marc, 1076
Becher, Dörte, 1008
Benz, Christopher C., 1034
Bergner, Sonja Verena, 969
Bestel-Corre, Gwenaëlle, 954
Bhattacharya, Renuka, 1119
Block, Aaron, 919
Bonvalot, Aline, 954
Bourne, Philip E., 1128
Brewer, Dyanne, 1095
Brewis, Ian A., 1050
Brown, Roslyn N., 1119
Bruley, Christophe, 954
Brun, Virginie, 954
Buettner, Falk F. R., 990
Burgess, Michael W., 1137
Burnum-Johnson, Kristin E., 1119
Büttner, Knut, 1008
- Carithers, Jr., Robert L., 1119
Carr, Steven A., 1137
Chou, Sherry H.-Y., 1091
Clayton, Aled, 1050
Costa, Alberto C. S., 919
Crowell, Kevin L., 1119
Cusack, Michael P., 1034
- Danielson, III, William F., 1119
De Filippo, Maria Rosaria, 1076
Dhanasekaran, A. Ranjitha, 919
Diamond, Deborah L., 1119
Drake, Penelope, 1034
- Ferro, Myriam, 954
Feske, Steven K., 1091
Fisher, Susan J., 1034
Fromion, Vincent, 1008
Fufezan, Christian, 969
- Garcia, Benjamin A., 1106
Gardiner, Kathleen J., 919
Garin, Jérôme, 954
Garrett, Scott H., 1020
Gibson, Bradford W., 1034
Gillette, Michael A., 1137
Giurato, Giorgio, 1076
- Goelzer, Anne, 1008
Gorasia, Dhana G., 938
Gordon, Bridget, 1050
Goya, Jonathan, 1106
Gritsenko, Marina A., 1119
Guo, Lei, 1065
- Habash, Marc, 1095
Hanchapola, Iresha, 1091
Hecker, Michael, 1008
Hu, Hao, 938
- Ibrahim, Yehia M., 1119
- Jacobs, Jon M., 1119
Jaeger, Daniel, 969
Jaquinod, Michel, 954
Jong, Hidde de, 954
- Katilius, Evaldas, 1050
Katze, Michael G., 1119
Keshishian, Hasmik, 1137
Khan, Zia, 1106
Khursigara, Cezar M., 1095
Knott, Jeff, 1128
Konze, Sarah A., 990
Krieger, Jonathan R., 1095
Kuruppu, Sanjaya, 1091
Kuss, Andreas W., 990
- LaMarche, Brian L., 1119
Lietzèn, Niina, 1076
Lill, Jennie R., 1128
Lo, Eng H., 1091
- Maaß, Sandra, 1008
Mäder, Ulrike, 1008
Mani, D. R., 1137
Mason, Malcolm D., 1050
Matzke, Melissa M., 1119
McMahon, Brian J., 1119
Mehus, Aaron A., 1020
Molden, Rosalynn C., 1106
Möller, Hanna, 990
Monroe, Matthew E., 1119
Moore, Ronald J., 1119
Muhonen, Wallace W., 1020
Muntel, Jan, 1008
Murphy, Kathleen, 1095
- Nassa, Giovanni, 1076
Niehues, Anna, 969
Ning, MingMing, 1091
Nyman, Tuula A., 1076

Olivera, Baldomero M., 938
 Olmer, Ruth, 990
 Orton, Daniel J., 1119

 Park, Amber J., 1095
 Perkins, James D., 1119
 Pich, Andreas, 990
 Piehowski, Paul D., 1119
 Purcell, Anthony W., 938
 Purdy, David E., 1119

 Ravo, Maria, 1076
 Reynolds, Eric C., 938
 Rizzo, Francesca, 1076
 Ropers, Delphine, 954
 Rush, John, 1128

 Safavi-Hemami, Helena, 938
 Sahu, Alexandria K., 1034
 Sandoval, John D., 1119
 Schilling, Birgit, 1034
 Scholz, Martin, 969
 Schröder, Anke, 990
 Schulze, Stefan, 969
 Self, Steven G., 1119
 Sens, Donald A., 1020
 Shabb, John B., 1020
 Simons, Brenna C., 1119
 Slysz, Gordon W., 1119
 Smith, A. Ian, 1091

 Smith, Breanna C., 1050
 Smith, Richard D., 1119
 Somji, Seema, 1020
 Stellato, Claudia, 1076
 Stone, Timothy C., 1050
 Strom, Susan, 1119
 Suh, Sarah, 1091

 Tabi, Zsuzsanna, 1050
 Tarallo, Roberta, 1076
 Taylor, Paul, 1095
 Tong, Suhong, 919
 Trauchessec, Mathieu, 954

 van Diepen, Laura, 990
 Veith, Paul D., 938

 Wang, Jian, 1128
 Wang, Yinsheng, 1065
 Webber, Jason, 1050
 Webb-Robertson, Bobbie-Jo M., 1119
 Weißmann, Robert, 990
 Weisz, Alessandro, 1076

 Xiao, Yongsheng, 1065

 Yandell, Mark, 938
 Young, Neil D., 938

 Zawadzka, Anna M., 1034
 Zweigerdt, Robert, 990