

Table of Contents

This issue and full Instructions to Authors are
available in electronic form at
<http://www.mcponline.org>

Issues in Proteomics

- M110.006387 **Interpretation of Data Underlying the Link Between Colony Collapse Disorder (CCD) and an Invertebrate Iridescent Virus**
⌘
Leonard J. Foster

Perspective

- M110.004374 **Multiple Hypothesis Testing in Proteomics: A Strategy for Experimental Work**
[S] *Angel P. Diz, Antonio Carvajal-Rodríguez, and David O. F. Skibinski*

Research

- M110.000786 **Exploring Antibody Recognition of Sequence Space through Random-Sequence Peptide Microarrays**
Rebecca F. Halperin, Phillip Stafford, and Stephen Albert Johnston
- M110.003590 **Mass Spectrometric Analysis of Lysine Ubiquitylation Reveals Promiscuity at Site Level**
[S] ⌘
Jannie M. R. Danielsen, Kathrine B. Sylvestersen, Simon Bekker-Jensen, Damian Szklarczyk, Jon W. Poulsen, Heiko Horn, Lars J. Jensen, Niels Mailand, and Michael L. Nielsen
- M110.000901 **S100A11 Mediates Hypoxia-induced Mitogenic Factor (HIMF)-induced Smooth Muscle Cell Migration, Vesicular Exocytosis, and Nuclear Activation**
[S]
Chunling Fan, Zongming Fu, Qingning Su, Daniel J. Angelini, Jennifer Van Eyk, and Roger A. Johns
- M110.003905 **Proteomic Analysis of Extracellular ATP-Regulated Proteins Identifies ATP Synthase β -Subunit as a Novel Plant Cell Death Regulator**
[S]
Stephen Chivasa, Daniel F. A. Tomé, John M. Hamilton, and Antoni R. Slabas
- M110.005231 **Time-resolved Quantitative Proteome Analysis of *In Vivo* Intestinal Development**
[S]
Jenny Hansson, Alexandre Panchaud, Laurent Favre, Nabil Bosco, Robert Mansourian, Jalil Benyacoub, Stephanie Blum, Ole N. Jensen, and Martin Kussmann
- M110.002477 **Peptides Presented by HLA-DR Molecules in Synovia of Patients with Rheumatoid Arthritis or Antibiotic-Refractory Lyme Arthritis**
[S]
Robert J. Seward, Elise E. Drouin, Allen C. Steere, and Catherine E. Costello

On the cover: Histone H3 palmitoylation. Due to the buried position of H3 cysteines and their consequential lack of chemical reactivity, palmitoylation is not possible within intact histone octamers. However, acylation becomes possible for the open clamshell conformation of nucleosomes determined by Allfrey. These reactive nucleosomes were isolated by mercury columns that covalently binding free sulfhydryls and are associated with active transcription. Histone H3 palmitoylation may be associated with chromatin regulation. For details, see article by Howard C. Hang et al., pages M110.001198, 1–16.

- M110.005199 **A Proteomic and Transcriptomic Approach Reveals New Insight into β -methylthiolation of *Escherichia coli* Ribosomal Protein S12**
 [S] *Michael Brad Strader, Nina Costantino, Christopher A. Elkins, Cai Yun Chen, Isha Patel, Anthony J. Makusky, John S. Choy, Donald L. Court, Sanford P. Markey, and Jeffrey A. Kowalak*
- M110.000927 **Discovery of Mouse Spleen Signaling Responses to Anthrax using Label-Free Quantitative Phosphoproteomics via Mass Spectrometry**
 [S] *Nathan P. Manes, Li Dong, Weidong Zhou, Xiuxia Du, Nikitha Reghu, Arjan C. Kool, Dahan Choi, Charles L. Bailey, Emanuel F. Petricoin III, Lance A. Liotta, and Serguei G. Popov*
- M110.005157 **A Robust Protocol to Map Binding Sites of the 14-3-3 Interactome: Cdc25C Requires Phosphorylation of Both S216 and S263 to bind 14-3-3**
 [S] *Perry M. Chan, Yuen-Wai Ng, and Ed Manser*
- M110.004606 **Profiling Cys³⁴ Adducts of Human Serum Albumin by Fixed-Step Selected Reaction Monitoring**
 [S] *He Li, Hasmik Grigoryan, William E. Funk, Sixin Samantha Lu, Sherri Rose, Evan R. Williams, and Stephen M. Rappaport*
- M110.002469 **Proteomic Profiling of a Layered Tissue Reveals Unique Glycolytic Specializations of Photoreceptor Cells**
 [S] *Boris Reidel, J. Will Thompson, Sina Farsiu, M. Arthur Moseley, Nikolai P. Skiba, and Vadim Y. Arshavsky*
- M900641-
MCP200 **Proteome-wide Dysregulation by PRA1 Depletion Delineates a Role of PRA1 in Lipid Transport and Cell Migration**
 [S] *Hao-Ping Liu, Chih-Ching Wu, Hung-Yi Kao, Yi-Chuan Huang, Ying Liang, Chia-Chun Chen, Jau-Song Yu, and Yu-Sun Chang*
- M110.001784 **Identification of MST1/STK4 and SULF1 Proteins as Autoantibody Targets for the Diagnosis of Colorectal Cancer by Using Phage Microarrays**
 [S] *Ingrid Babel, Rodrigo Barderas, Ramón Diaz-Uriarte, Víctor Moreno, Adolfo Suarez, María Jesús Fernandez-Aceñero, Ramón Salazar, Gabriel Capellá, and J. Ignacio Casal*
- M110.001552 **Identification of Phosphoproteins Associated with Human Neutrophil Granules Following Chemotactic Peptide Stimulation**
 [S] *Gregory C. Luerman, David W. Powell, Silvia M. Uriarte, Timothy D. Cummins, Michael L. Merchant, Richard A. Ward, and Kenneth R. McLeish*
- M110.000497 **Protein Microarrays Discover Angiotensinogen and PRKRIP1 as Novel Targets for Autoantibodies in Chronic Renal Disease**
Atul J. Butte, Tara K. Sigdel, Persis P. Wadia, David B. Miklos, and Minnie M. Sarwal
- M110.004721 **Site-Mapping of In Vitro S-nitrosation in Cardiac Mitochondria: Implications for Cardioprotection**
 [S] *Christopher I. Murray, Lesley A. Kane, Helge Uhrigshardt, Sheng-Bing Wang, and Jennifer E. Van Eyk*
- M110.003921 **Predicting Cytotoxic T-cell Age from Multivariate Analysis of Static and Dynamic Biomarkers**
 [S] *Catherine A. Rivet, Abby S. Hill, Hang Lu, and Melissa L. Kemp*
- M110.004630 **Mapping of the Human Testicular Proteome and its Relationship With That of the Epididymis and Spermatozoa**
 [S] *JianYuan Li, FuJun Liu, Xin Liu, Juan Liu, Peng Zhu, FengChun Wan, ShaoHua Jin, WenTing Wang, Ning Li, Jie Liu, and HaiYan Wang*
- M110.002980 **Proteomic Pathway Analysis Reveals Inflammation Increases Myeloid-Derived Suppressor Cell Resistance to Apoptosis**
 [S] *Olesya Chornoguz, Lydia Grmai, Pratima Sinha, Konstantin A. Artemenko, Roman A. Zubarev, and Suzanne Ostrand-Rosenberg*

- M110.005991 **Revisiting Rat Spermatogenesis with MALDI Imaging at 20- μ m Resolution**
 [S] *Mélanie Lagarrigue, Michael Becker, Régis Lavigne, Sören-Oliver Deininger, Axel Walch, Florence Aubry, Detlev Suckau, and Charles Pineau*
- M110.005116 **Comprehensive Analysis of Yeast Surface Displayed cDNA Library Selection Outputs by Exon Microarray to Identify Novel Protein-Ligand Interactions**
 [S] *Scott Bidlingmaier, Yong Wang, Yue Liu, Niu Zhang, and Bin Liu*
- M110.000513 **Novel Oxidative Modifications in Redox-Active Cysteine Residues**
 [S] *Jaeho Jeong, Yongsik Jung, Seungjin Na, Jihye Jeong, Eunsun Lee, Mi-Sun Kim, Sun Choi, Dong-Hae Shin, Eunok Paek, Hee-Yoon Lee, and Kong-Joo Lee*
- M110.004390 **Cyclic AMP Analog Blocks Kinase Activation by Stabilizing Inactive Conformation: Conformational Selection Highlights a New Concept in Allosteric Inhibitor Design**
 [S] *Suguna Badireddy, Gao Yunfeng, Mark Ritchie, Pearl Akamine, Jian Wu, Choel W. Kim, Susan S. Taylor, Lin Qingsong, Kunchithapadam Swaminathan, and Ganesh S. Anand*
- M110.001198 **Proteomic Analysis of Fatty-acylated Proteins in Mammalian Cells with Chemical Reporters Reveals S-Acylation of Histone H3 Variants**
 [S] *John P. Wilson, Anuradha S. Raghavan, Yu-Ying Yang, Guillaume Charron, and Howard C. Hang*
- M900229-
MCP200 **Impact of Temperature Dependent Sampling Procedures in Proteomics and Peptidomics – A Characterization of the Liver and Pancreas Post Mortem Degradome**
 [S] *Birger Scholz, Karl Sköld, Kim Kultima, Celine Fernandez, Sofia Waldemarson, Mikhail M. Savitski, Marcus Söderquist, Mats Borén, Robert Stella, Per Andrén, Roman Zubarev, and Peter James*

Technological Innovation and Resources

- M110.005611 **Index-ion Triggered MS2 Ion Quantification: A Novel Proteomics Approach for Reproducible Detection and Quantification of Targeted Proteins in Complex Mixtures**
 [S] ✎ *Wei Yan, Jie Luo, Max Robinson, Jimmy Eng, Ruedi Aebersold, and Jeffrey Ranish*

AUTHOR INDEX

- Aebersold, Ruedi, M110.005611
Akamine, Pearl, M110.004390
Anand, Ganesh S., M110.004390
Andrén, Per, M900229-MCP200
Angelini, Daniel J., M110.000901
Arshavsky, Vadim Y., M110.002469
Artemenko, Konstantin A., M110.002980
Aubry, Florence, M110.005991
- Babel, Ingrid, M110.001784
Badireddy, Suguna, M110.004390
Bailey, Charles L., M110.000927
Barderas, Rodrigo, M110.001784
Becker, Michael, M110.005991
Bekker-Jensen, Simon, M110.003590
Benyacoub, Jalil, M110.005231
Bidlingmaier, Scott, M110.005116
Blum, Stephanie, M110.005231
Borén, Mats, M900229-MCP200
Bosco, Nabil, M110.005231
Butte, Atul J., M110.000497
- Capellá, Gabriel, M110.001784
Carvajal-Rodríguez, Antonio, M110.004374
Casal, J. Ignacio, M110.001784
Chan, Perry M., M110.005157
Chang, Yu-Sun, M900641-MCP200
Charron, Guillaume, M110.001198
Chen, Cai Yun, M110.005199
Chen, Chia-Chun, M900641-MCP200
Chivasa, Stephen, M110.003905
Choi, Dahan, M110.000927
Choi, Sun, M110.000513
Chornoguz, Olesya, M110.002980
Choy, John S., M110.005199
Costantino, Nina, M110.005199
Costello, Catherine E., M110.002477
Court, Donald L., M110.005199
Cummins, Timothy D., M110.001552
- Danielsen, Jannie M. R., M110.003590
Deiningner, Sören-Oliver, M110.005991
Díaz-Uriarte, Ramón, M110.001784
Diz, Angel P., M110.004374
Dong, Li, M110.000927
Drouin, Elise E., M110.002477
Du, Xiuxia, M110.000927
- Elkins, Christopher A., M110.005199
Eng, Jimmy, M110.005611
- Fan, Chunling, M110.000901
Farsiu, Sina, M110.002469
Favre, Laurent, M110.005231
- Fernandez-Aceñero, María Jesús,
M110.001784
Fernandez, Celine, M900229-MCP200
Foster, Leonard J., M110.006387
Fu, Zongming, M110.000901
Funk, William E., M110.004606
- Grigoryan, Hasmik, M110.004606
Grmai, Lydia, M110.002980
- Halperin, Rebecca F., M110.000786
Hamilton, John M., M110.003905
Hang, Howard C., M110.001198
Hansson, Jenny, M110.005231
Hill, Abby S., M110.003921
Horn, Heiko, M110.003590
Huang, Yi-Chuan, M900641-MCP200
- James, Peter, M900229-MCP200
Jensen, Lars J., M110.003590
Jensen, Ole N., M110.005231
Jeong, Jaeho, M110.000513
Jeong, Jihye, M110.000513
Jin, ShaoHua, M110.004630
Johns, Roger A., M110.000901
Johnston, Stephen Albert, M110.000786
Jung, Yongsik, M110.000513
- Kane, Lesley A., M110.004721
Kao, Hung-Yi, M900641-MCP200
Kemp, Melissa L., M110.003921
Kim, Choel W., M110.004390
Kim, Mi-Sun, M110.000513
Kool, Arjan C., M110.000927
Kowalak, Jeffrey A., M110.005199
Kultima, Kim, M900229-MCP200
Kussmann, Martin, M110.005231
- Lagarrigue, Mélanie, M110.005991
Lavigne, Régis, M110.005991
Lee, Eunsun, M110.000513
Lee, Hee-Yoon, M110.000513
Lee, Kong-Joo, M110.000513
Liang, Ying, M900641-MCP200
Liotta, Lance A., M110.000927
Li, He, M110.004606
Li, JianYuan, M110.004630
Li, Ning, M110.004630
Liu, Bin, M110.005116
Liu, FuJun, M110.004630
Liu, Hao-Ping, M900641-MCP200
Liu, Jie, M110.004630
Liu, Juan, M110.004630
Liu, Xin, M110.004630
Liu, Yue, M110.005116

Lu, Hang, M110.003921
Luerman, Gregory C., M110.001552
Luo, Jie, M110.005611

Mailand, Niels, M110.003590
Makusky, Anthony J., M110.005199
Manes, Nathan P., M110.000927
Manser, Ed, M110.005157
Mansourian, Robert, M110.005231
Markey, Sanford P., M110.005199
McLeish, Kenneth R., M110.001552
Merchant, Michael L., M110.001552
Miklos, David B., M110.000497
Moreno, Víctor, M110.001784
Moseley, M. Arthur, M110.002469
Murray, Christopher I., M110.004721

Na, Seungjin, M110.000513
Ng, Yuen-Wai, M110.005157
Nielsen, Michael L., M110.003590

Ostrand-Rosenberg, Suzanne,
M110.002980

Paek, Eunok, M110.000513
Panchaud, Alexandre, M110.005231
Patel, Isha, M110.005199
Petricoin, Emanuel F., III, M110.000927
Pineau, Charles, M110.005991
Popov, Serguei G., M110.000927
Poulsen, Jon W., M110.003590
Powell, David W., M110.001552

Qingsong, Lin, M110.004390

Raghavan, Anuradha S., M110.001198
Ranish, Jeffrey, M110.005611
Rappaport, Stephen M., M110.004606
Reghu, Nikitha, M110.000927
Reidel, Boris, M110.002469
Ritchie, Mark, M110.004390
Rivet, Catherine A., M110.003921
Robinson, Max, M110.005611
Rose, Sherri, M110.004606

Salazar, Ramón, M110.001784
Samantha Lu, Sixin, M110.004606
Sarwal, Minnie M., M110.000497
Savitski, Mikhail M., M900229-MCP200
Scholz, Birger, M900229-MCP200
Seward, Robert J., M110.002477
Shin, Dong-Hae, M110.000513
Sigdel, Tara K., M110.000497

Sinha, Pratima, M110.002980
Skiba, Nikolai P., M110.002469
Skibinski, David O. F., M110.004374
Sköld, Karl, M900229-MCP200
Slabas, Antoni R., M110.003905
Stafford, Phillip, M110.000786
Steere, Allen C., M110.002477
Stella, Robert, M900229-MCP200
Strader, Michael Brad, M110.005199
Su, Qingning, M110.000901
Suarez, Adolfo, M110.001784
Suckau, Detlev, M110.005991
Söderquist, Marcus, M900229-MCP200
Swaminathan, Kunchithapadam,
M110.004390
Sylvestersen, Kathrine B., M110.003590
Szklarczyk, Damian, M110.003590

Taylor, Susan S., M110.004390
Thompson, J. Will, M110.002469
Tomé, Daniel F. A., M110.003905

Uhrigshardt, Helge, M110.004721
Uriarte, Silvia M., M110.001552

Van Eyk, Jennifer, M110.000901
Van Eyk, Jennifer E., M110.004721

Wadia, Persis P., M110.000497
Walch, Axel, M110.005991
Waldemarson, Sofia, M900229-MCP200
Wan, FengChun, M110.004630
Wang, HaiYan, M110.004630
Wang, Sheng-Bing, M110.004721
Wang, WenTing, M110.004630
Wang, Yong, M110.005116
Ward, Richard A., M110.001552
Williams, Evan R., M110.004606
Wilson, John P., M110.001198
Wu, Chih-Ching, M900641-MCP200
Wu, Jian, M110.004390

Yan, Wei, M110.005611
Yang, Yu-Ying, M110.001198
Yu, Jau-Song, M900641-MCP200
Yunfeng, Gao, M110.004390

Zhang, Niu, M110.005116
Zhou, Weidong, M110.000927
Zhu, Peng, M110.004630
Zubarev, Roman, M900229-MCP200
Zubarev, Roman A., M110.002980