

## Table of Contents

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

### Review

- R111.013037 **Regulatory Control or Oxidative Damage? Proteomic Approaches to Interrogate the Role of Cysteine Oxidation Status in Biological Processes**  
*Jason M. Held and Bradford W. Gibson*

### Research

- M111.013649 **Human Urinary Glycoproteomics; Attachment Site Specific Analysis of N- and O-Linked Glycosylations by CID and ECD**  
[S] *Adnan Halim, Jonas Nilsson, Ulla Rüetschi, Camilla Hesse, and Göran Larson*
- M111.014563 **Changes in Antigen-specific IgG1 Fc N-glycosylation Upon Influenza and Tetanus Vaccination**  
[S] ✎ *Maurice H. J. Selman, Sanne E. de Jong, Darius Soonawala, Frank P. Kroon, Ayola Akim Adegnika, André M. Deelder, Cornelis H. Hokke, Maria Yazdanbakhsh, and Manfred Wuhrer*
- M111.008755 **Bioinformatics Analysis of Proteomic Profiles During the Process of Anti-Thy1 Nephritis**  
*Yang Lu, Xiaoluan Liu, Suozhu Shi, Huabin Su, Xueyuan Bai, Guangyan Cai, Fuquan Yang, Zhensheng Xie, Yunping Zhu, Yanqiong Zhang, Shujia Zhang, Xiaofan Li, Shan Wang, Di Wu, Li Zhang, Jie Wu, Yuansheng Xie, and Xiangmei Chen*
- M111.011270 **Stable Isotope Labeling with Amino Acids in Cell Culture (SILAC)-based Quantitative Proteomics Study of a Thyroid Hormone-regulated Secretome in Human Hepatoma Cells**  
[S] *Cheng-Yi Chen, Lang-Ming Chi, Hsiang-Cheng Chi, Ming-Ming Tsai, Chung-Ying Tsai, Yi-Hsin Tseng, Yang-Hsiang Lin, Wei-Jan Chen, Ya-Hui Huang, and Kwang-Huei Lin*
- M111.011544 **Characterization of a Highly Conserved Histone Related Protein, Ydl156w, and Its Functional Associations Using Quantitative Proteomic Analyses**  
[S] *Joshua M. Gilmore, Mihaela E. Sardi, Swaminathan Venkatesh, Brent Stutzman, Allison Peak, Chris W. Seidel, Jerry L. Workman, Laurence Florens, and Michael P. Washburn*
- M111.014555 **Quantitative Proteomics Reveals Dynamic Changes in the Plasma Membrane During Arabidopsis Immune Signaling**  
[S] *James Mitch Elmore, Jun Liu, Barrett Smith, Brett Phinney, and Gitta Coaker*
- M111.009449 **Profilin 1 is a Potential Biomarker for Bladder Cancer Aggressiveness**  
[S] *Jerome Zoidakis, Manousos Makridakis, Panagiotis G. Zerefos, Vasiliki Bitsika, Sergio Esteban, Maria Frantzi, Konstantinos Stravodimos, Nikolaos P. Anagnou, Maria G. Roubelakis, Marta Sanchez-Carbayo, and Antonia Vlahou*

---

On the cover: Plants respond dynamically to pathogen threats. The *Arabidopsis* plasma membrane proteome was profiled upon activation of the disease resistance protein RPS2. On the left is a healthy plant while on the right is a diseased plant that has been infected with *Pseudomonas syringae* pv. *tomato*. For details, detail, see article by Elmore *et al.*, pages M111.014555. 1–13.

---

- M111.014720 **Lactoferricin B Inhibits the Phosphorylation of the Two-Component System Response Regulators BasR and CreB**  
 [S] *Yu-Hsuan Ho, Tzu-Cheng Sung, and Chien-Sheng Chen*
- M111.014647 **The Matrisome: *In Silico* Definition and *In Vivo* Characterization by Proteomics of Normal and Tumor Extracellular Matrices**  
 [S] ✂ *Alexandra Naba, Karl R. Clauser, Sebastian Hoersch, Hui Liu, Steven A. Carr, and Richard O. Hynes*
- M111.015313 **Host Cell Interactome of HIV-1 Rev Includes RNA Helicases Involved in Multiple Facets of Virus Production**  
 [S] *Souad Naji, Géza Ambrus, Peter Cimermančič, Jason R. Reyes, Jeffrey R. Johnson, Rebecca Filbrandt, Michael D. Huber, Paul Vesely, Nevan J. Krogan, John R. Yates III, Andrew C. Saphire, and Larry Gerace*
- M111.015206 **Surface Interactome in *Streptococcus pyogenes***  
 [S] *Cesira L. Galeotti, Elia Bove, Alfredo Pezzicoli, Renzo Nogarotto, Nathalie Norais, Silvia Pileri, Barbara Lelli, Fabiana Falugi, Sergio Balloni, Vittorio Tedde, Emiliano Chiarot, Mauro Bombaci, Marco Soriani, Luisa Bracci, Guido Grandi, and Renata Grifantini*
- M111.010660 **Extensive Determination of Glycan Heterogeneity Reveals an Unusual Abundance of High Mannose Glycans in Enriched Plasma Membranes of Human Embryonic Stem Cells**  
 [S] *Hyun Joo An, Phung Gip, Jaehan Kim, Shuai Wu, Kun Wook Park, Cheryl T. McVaugh, David V. Schaffer, Carolyn R. Bertozzi, and Carlito B. Lebrilla*
- M111.010918 **Proteome Expression and Carbonylation Changes During *Trypanosoma cruzi* Infection and Chagas Disease in Rats**  
 [S] *Jian-Jun Wen and Nisha Jain Garg*
- M111.011593 **Physical Characterization of the “Immunosignaturing Effect”**  
 ✂ *Phillip Stafford, Rebecca Halperin, Joseph Bart Legutki, Dewey Mitchell Magee, John Galgiani, and Stephen Albert Johnston*

## Technological Innovation and Resources

- M111.010587 **PEAKS DB: *De Novo* Sequencing Assisted Database Search for Sensitive and Accurate Peptide Identification**  
 [S] ✂ *Jing Zhang, Lei Xin, Baozhen Shan, Weiwu Chen, Mingjie Xie, Denis Yuen, Weiming Zhang, Zefeng Zhang, Gilles A. Lajoie, and Bin Ma*
- M111.012088 **Probing the Conformation of the ISWI ATPase Domain With Genetically Encoded Photoreactive Crosslinkers and Mass Spectrometry**  
 [S] *Ignasi Forné, Johanna Ludwigsen, Axel Imhof, Peter B. Becker, and Felix Mueller-Planitz*
- M111.014985 **Nanospray FAIMS Fractionation Provides Significant Increases in Proteome Coverage of Unfractionated Complex Protein Digests**  
 [S] *Kristian E. Swearingen, Michael R. Hoopmann, Richard S. Johnson, Ramsey A. Saleem, John D. Aitchison, and Robert L. Moritz*
- M111.011460 **Antibody Colocalization Microarray: A Scalable Technology for Multiplex Protein Analysis in Complex Samples**  
 [S] ✂ *M. Pla-Roca, R. F. Leulmi, S. Tourekhanova, S. Bergeron, V. Laforte, E. Moreau, S. J. C. Gosline, N. Bertos, M. Hallett, M. Park, and D. Juncker*
- M111.010199 **Fast Multi-blind Modification Search through Tandem Mass Spectrometry**  
 [S] *Seungjin Na, Nuno Bandeira, and Eunok Paek*
- R111.015040 **TraML—A Standard Format for Exchange of Selected Reaction Monitoring Transition Lists**  
 [S] ✂ *Eric W. Deutsch, Matthew Chambers, Steffen Neumann, Fredrik Levander, Pierre-Alain Binz, Jim Shofstahl, David S. Campbell, Luis Mendoza, David Ovelleiro, Kenny Helsens, Lennart Martens, Ruedi Aebersold, Robert L. Moritz, and Mi-Youn Brusniak*

- M111.014662 **Protein Significance Analysis in Selected Reaction Monitoring (SRM) Measurements**  
[S] *Ching-Yun Chang, Paola Picotti, Ruth Hüttenhain, Viola Heinzlmann-Schwarz, Marko Jovanovic, Ruedi Aebersold, and Olga Vitek*
- O110.007088 **Generic Comparison of Protein Inference Engines**  
[S] *Manfred Claassen, Lukas Reiter, Michael O. Hengartner, Joachim M. Buhmann, and Ruedi Aebersold*
- O111.014076 **E3Net: A System for Exploring E3-mediated Regulatory Networks of Cellular Functions**  
[S] *Youngwoong Han, Hodong Lee, Jong C. Park, and Gwan-Su Yi*
- O111.012351 **Combination of Chemical Genetics and Phosphoproteomics for Kinase Signaling Analysis Enables Confident Identification of Cellular Downstream Targets**  
[S] *Felix S. Oppermann, Kathrin Grundner-Culemann, Chanchal Kumar, Oliver J. Gruss, Prasad V. Jallepalli, and Henrik Daub*

## Letter to Editor

- L111.010496 **Umbilical Cord Stromal Cell Differentiation: little correlation with known markers of the chondrocyte phenotype or cartilage extracellular matrix**  
*Richard Wilson*

## AUTHOR INDEX

- Adegnika, Ayola Akim, M111.014563  
Aebersold, Ruedi, M111.014662,  
O110.007088, R111.015040  
Aitchison, John D., M111.014985  
Ambrus, Géza, M111.015313  
An, Hyun Joo, M111.010660  
Anagnou, Nikolaos P., M111.009449
- Bai, Xueyuan, M111.008755  
Balloni, Sergio, M111.015206  
Bandeira, Nuno, M111.010199  
Becker, Peter B., M111.012088  
Bergeron, S., M111.011460  
Bertos, N., M111.011460  
Bertozzi, Carolyn R., M111.010660  
Binz, Pierre-Alain, R111.015040  
Bitsika, Vasiliki, M111.009449  
Bombaci, Mauro, M111.015206  
Bove, Elia, M111.015206  
Bracci, Luisa, M111.015206  
Brusniak, Mi-Youn, R111.015040  
Buhmann, Joachim M., O110.007088
- Cai, Guangyan, M111.008755  
Campbell, David S., R111.015040  
Carr, Steven A., M111.014647  
Chambers, Matthew, R111.015040  
Chang, Ching-Yun, M111.014662  
Chen, Cheng-Yi, M111.011270  
Chen, Chien-Sheng, M111.014720  
Chen, Wei-Jan, M111.011270  
Chen, Weiwu, M111.010587  
Chen, Xiangmei, M111.008755  
Chi, Hsiang-Cheng, M111.011270  
Chi, Lang-Ming, M111.011270  
Chiarot, Emiliano, M111.015206  
Cimermančič, Peter, M111.015313  
Claassen, Manfred, O110.007088  
Clauser, Karl R., M111.014647  
Coaker, Gitta, M111.014555
- Daub, Henrik, O111.012351  
de Jong, Sanne E., M111.014563  
Deelder, André M., M111.014563  
Deutsch, Eric W., R111.015040
- Elmore, James Mitch, M111.014555  
Esteban, Sergio, M111.009449
- Falugi, Fabiana, M111.015206  
Filbrandt, Rebecca, M111.015313  
Florens, Laurence, M111.011544  
Forné, Ignasi, M111.012088  
Frantzi, Maria, M111.009449
- Galeotti, Cesira L., M111.015206  
Galgiani, John, M111.011593  
Garg, Nisha Jain, M111.010918  
Gerace, Larry, M111.015313  
Gibson, Bradford W., R111.013037  
Gilmore, Joshua M., M111.011544  
Gip, Phung, M111.010660  
Gosline, S. J. C., M111.011460  
Grandi, Guido, M111.015206  
Grifantini, Renata, M111.015206  
Grundner-Culemann, Kathrin, O111.012351  
Gruss, Oliver J., O111.012351
- Halim, Adnan, M111.013649  
Hallett, M., M111.011460  
Halperin, Rebecca, M111.011593  
Han, Youngwoong, O111.014076  
Heinzelmann-Schwarz, Viola, M111.014662  
Held, Jason M., R111.013037  
Helsens, Kenny, R111.015040  
Hengartner, Michael O., O110.007088  
Hesse, Camilla, M111.013649  
Ho, Yu-Hsuan, M111.014720  
Hoersch, Sebastian, M111.014647  
Hokke, Cornelis H., M111.014563  
Hoopmann, Michael R., M111.014985  
Huang, Ya-Hui, M111.011270  
Huber, Michael D., M111.015313  
Hüttenhain, Ruth, M111.014662  
Hynes, Richard O., M111.014647
- Imhof, Axel, M111.012088
- Jallepalli, Prasad V., O111.012351  
Johnson, Jeffrey R., M111.015313  
Johnson, Richard S., M111.014985  
Johnston, Stephen Albert, M111.011593  
Jovanovic, Marko, M111.014662  
Juncker, D., M111.011460
- Kim, Jaehan, M111.010660  
Krogan, Nevan J., M111.015313  
Kroon, Frank P., M111.014563  
Kumar, Chanchal, O111.012351
- Laforte, V., M111.011460  
Lajoie, Gilles A., M111.010587  
Larson, Göran, M111.013649  
Lebrilla, Carlito B., M111.010660  
Lee, Hodong, O111.014076  
Legutki, Joseph Bart, M111.011593  
Lelli, Barbara, M111.015206  
Leulmi, R. F., M111.011460  
Levander, Fredrik, R111.015040  
Lin, Kwang-Huei, M111.011270

Lin, Yang-Hsiang, M111.011270  
 Liu, Hui, M111.014647  
 Liu, Jun, M111.014555  
 Li, Xiaofan, M111.008755  
 Liu, Xiaoluan, M111.008755  
 Lu, Yang, M111.008755  
 Ludwigsen, Johanna, M111.012088  
  
 Ma, Bin, M111.010587  
 Magee, Dewey Mitchell, M111.011593  
 Makridakis, Manousos, M111.009449  
 Martens, Lennart, R111.015040  
 McVaugh, Cheryl T., M111.010660  
 Mendoza, Luis, R111.015040  
 Moreau, E., M111.011460  
 Moritz, Robert L., M111.014985, R015040  
 Mueller-Planitz, Felix, M111.012088  
  
 Na, Seungjin, M111.010199  
 Naba, Alexandra, M111.014647  
 Naji, Souad, M111.015313  
 Neumann, Steffen, R111.015040  
 Nilsson, Jonas, M111.013649  
 Nogarotto, Renzo, M111.015206  
 Norais, Nathalie, M111.015206  
  
 Oppermaun, Felix S., O111.012351  
 Ovelleiro, David, R111.015040  
  
 Paek, Eunok, M111.010199  
 Park, Jong C., O111.014076  
 Park, M., M111.011460  
 Park, Kun Wook, M111.010660  
 Peak, Allison, M111.011544  
 Pezzicoli, Alfredo, M111.015206  
 Phinney, Brett, M111.014555  
 Picotti, Paola, M111.014662  
 Pileri, Silvia, M111.015206  
 Pla-Roca, M., M111.011460  
 Reiter, Lukas, O110.007088  
 Reyes, Jason R., M111.015313  
 Roubelakis, Maria G., M111.009449  
 Rüetschi, Ulla, M111.013649  
  
 Saleem, Ramsey A., M111.014985  
 Sanchez-Carbayo, Marta, M111.009449  
 Sapphire, Andrew C., M111.015313  
 Sardu, Mihaela E., M111.011544  
 Schaffer, David V., M111.010660  
 Seidel, Chris W., M111.011544  
 Selman, Maurice H. J., M111.014563  
 Shan, Baozhen, M111.010587  
  
 Shi, Suozhu, M111.008755  
 Shofstahl, Jim, R111.015040  
 Smith, Barrett, M111.014555  
 Soonawala, Darius, M111.014563  
 Soriani, Marco, M111.015206  
 Stafford, Phillip, M111.011593  
 Stravodimos, Konstantinos, M111.009449  
 Stutzman, Brent, M111.011544  
 Su, Huabin, M111.008755  
 Sung, Tzu-Cheng, M111.014720  
 Swearingen, Kristian E., M111.014985  
  
 Tedde, Vittorio, M111.015206  
 Tourekhanova, S., M111.011460  
 Tsai, Chung-Ying, M111.011270  
 Tsai, Ming-Ming, M111.011270  
 Tseng, Yi-Hsin, M111.011270  
  
 Venkatesh, Swaminathan, M111.011544  
 Vesely, Paul, M111.015313  
 Vitek, Olga, M111.014662  
 Vlahou, Antonia, M111.009449  
  
 Wang, Shan, M111.008755  
 Washburn, Michael P., M111.011544  
 Wen, Jian-Jun, M111.010918  
 Workman, Jerry L., M111.011544  
 Wu, Di, M111.008755  
 Wu, Jie, M111.008755  
 Wu, Shuai, M111.010660  
 Wuhler, Manfred, M111.014563  
  
 Xie, Mingjie, M111.010587  
 Xie, Yuansheng, M111.008755  
 Xie, Zhensheng, M111.008755  
 Xin, Lei, M111.010587  
  
 Yang, Fuquan, M111.008755  
 Yates III, John R., M111.015313  
 Yazdanbakhsh, Maria, M111.014563  
 Yi, Gwan-Su, O111.014076  
 Yuen, Denis, M111.010587  
  
 Zerefos, Panagiotis G., M111.009449  
 Zhang, Jing, M111.010587  
 Zhang, Li, M111.008755  
 Zhang, Shujia, M111.008755  
 Zhang, Weiming, M111.010587  
 Zhang, Yanqiong, M111.008755  
 Zhang, Zefeng, M111.010587  
 Zhu, Yunping, M111.008755  
 Zoidakis, Jerome, M111.009449