



Table of Contents

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

Review

- 2023 **MALDI Imaging Mass Spectrometry: State of the Art Technology in Clinical Proteomics**
Julien Franck, Karim Arafah, Mohamed Elayed, David Bonnel, Daniele Vergara, Amélie Jacquet, Denis Vinatier, Maxence Wisztorski, Robert Day, Isabelle Fournier, and Michel Salzet

Research

- 2034 **Complementary Quantitative Proteomics Reveals that Transcription Factor AP-4 Mediates E-box-dependent Complex Formation for Transcriptional Repression of *HDM2***
[S] *Wei-Chi Ku, Sung-Kay Chiu, Yi-Ju Chen, Hsin-Hung Huang, Wen-Guey Wu, and Yu-Ju Chen*
- 2051 **Unique Ion Signature Mass Spectrometry, a Deterministic Method to Assign Peptide Identity**
[S] *Jamie Sherman, Matthew J. McKay, Keith Ashman, and Mark P. Molloy*
- 2063 **Proteome-wide Prediction of Signal Flow Direction in Protein Interaction Networks Based on Interacting Domains**
[S] *Wei Liu, Dong Li, Jian Wang, Hongwei Xie, Yunping Zhu, and Fuchu He*
- 2071 **Anti-thrombosis Repertoire of Blood-feeding Horsefly Salivary Glands**
[S] *Dongying Ma, Yipeng Wang, Hailong Yang, Jing Wu, Shu An, Li Gao, Xueqing Xu, and Ren Lai*
- 2080 **An Azido-Biotin Reagent for Use in the Isolation of Protein Adducts of Lipid-derived Electrophiles by Streptavidin Catch and Photorelease**
[S] *Hye-Young H. Kim, Keri A. Tallman, Daniel C. Liebler, and Ned A. Porter*
- 2090 **Naturally Presented Peptides on Major Histocompatibility Complex I and II Molecules Eluted from Central Nervous System of Multiple Sclerosis Patients**
[S] *Nicolas Fissolo, Sabrina Haag, Katrien L. de Graaf, Oliver Drews, Stefan Stevanovic, Hans Georg Rammensee, and Robert Weissert*
- 2102 **Proteome Analysis of *Plasmodium falciparum* Extracellular Secretory Antigens at Asexual Blood Stages Reveals a Cohort of Proteins with Possible Roles in Immune Modulation and Signaling**
[S] *Meha Singh, Paushali Mukherjee, Krishnamoorthy Narayanasamy, Reena Arora, Som Dutta Sen, Shashank Gupta, Krishnamurthy Natarajan, and Pawan Malhotra*
- 2119 **Evidence for a Shared Nuclear Pore Complex Architecture That Is Conserved from the Last Common Eukaryotic Ancestor**
[S] % *Jeffrey A. DeGrasse, Kelly N. DuBois, Damien Devos, T. Nicolai Siegel, Andrej Sali, Mark C. Field, Michael P. Rout, and Brian T. Chait*

On the cover: Autoantigenic naturally processed peptides that had been eluted from MHC I and MHC II molecules, expressed in central nervous system tissue of patients with multiple sclerosis, were identified by tandem mass spectrometry. The eluted ligands define previously known and novel autoantigens in multiple sclerosis. This study provides for the first time biochemical proof of the presented peptides in multiple sclerosis. For details, see the article by Fissolo *et al.*, pages 2090–2101.

- 2131  **Epidermal Growth Factor Receptor Phosphorylation Sites Ser⁹⁹¹ and Tyr⁹⁹⁸ Are Implicated in the Regulation of Receptor Endocytosis and Phosphorylations at Ser¹⁰³⁹ and Thr¹⁰⁴¹**
Jiefei Tong, Paul Taylor, Scott M. Peterman, Amol Prakash, and Michael F. Moran
- 2145  **Urinary Protein Profiles in a Rat Model for Diabetic Complications**
Daniela M. Schlatzer, Jean-Eudes Dazard, Moyez Dharsee, Rob M. Ewing, Serguei Ilchenko, Ian Stewart, George Christ, and Mark R. Chance
- 2159  **Differential Membrane Proteome Analysis Reveals Novel Proteins Involved in the Degradation of Aromatic Compounds in *Geobacter metallireducens***
Dimitri Heintz, Sébastien Gallien, Simon Wischgoll, Anja Kerstin Ullmann, Christine Schaeffer, Antje Karen Kretzschmar, Alain van Dorsselaer, and Matthias Boll
- 2170  **Identification and Quantification of Glycoproteins Using Ion-Pairing Normal-phase Liquid Chromatography and Mass Spectrometry**
Wen Ding, Harald Nothaft, Christine M. Szymanski, and John Kelly
- 2186  **Quantitative Proteomics Reveals a Dynamic Association of Proteins to Detergent-resistant Membranes upon Elicitor Signaling in Tobacco**
Thomas Stanislas, David Bouyssié, Michel Rossignol, Simona Vesa, Jérôme Fromentin, Johanne Morel, Carole Pichereaux, Bernard Monsarrat, and Françoise Simon-Plas

HUPO Views

- 2199 **The Moscow HUPO Human Proteome Project Workshop**
Alexander Archakov, John J. M. Bergeron, Alexander Khlunov, Andrey Lisitsa, and Young-Ki Paik