

Review

- 1752 **Identification of Protein Interactions Involved in Cellular Signaling**
Jukka Westermarck, Johanna Ivaska, and Garry L. Corthals

Research

- 1764 **Membrane Glucocorticoid Receptor Activation Induces Proteomic Changes Aligning with Classical Glucocorticoid Effects**
[S] *Sara Vernocchi, Nadia Battello, Stephanie Schmitz, Dominique Revets, Anja M. Billing, Jonathan D. Turner, and Claude P. Muller*
- 1780 **Deep Proteome Coverage Based on Ribosome Profiling Aids Mass Spectrometry-based Protein and Peptide Discovery and Provides Evidence of Alternative Translation Products and Near-cognate Translation Initiation Events**
[S] *Gerben Menschaert, Wim Van Crielinge, Tineke Notelaers, Alexander Koch, Jeroen Crappé, Kris Gevaert, and Petra Van Damme*
- 1791 **Disparate Proteome Responses of Pathogenic and Nonpathogenic Aspergilli to Human Serum Measured by Activity-Based Protein Profiling (ABPP)**
[S] *Susan D. Wiedner, Charles Ansong, Bobbie-Jo Webb-Robertson, LeeAnna M. Pederson, Suereta Fortuin, Beth A. Hofstad, Anil K. Shukla, Ellen A. Panisko, Richard D. Smith, and Aaron T. Wright*
- 1806 **Extending the Mannose 6-Phosphate Glycoproteome by High Resolution/Accuracy Mass Spectrometry Analysis of Control and Acid Phosphatase 5-Deficient Mice**
[S] *David E. Sleat, Pengling Sun, Jennifer A. Wiseman, Ling Huang, Mukarram El-Banna, Haiyan Zheng, Dirk F. Moore, and Peter Lobel*
- 1818 ***Dermatophagoides farinae* Allergens Diversity Identification by Proteomics**
[S] *Su An, Lingling Chen, Chengbo Long, Xiaoyu Liu, Xuemei Xu, Xingre Lu, Mingqiang Rong, Zhigang Liu, and Ren Lai*
- 1829 **The Human Leukocyte Antigen-presented Ligandome of B Lymphocytes**
[S] *Chopie Hassan, Michel G. D. Kester, Arnoud H. de Ru, Pleun Hombrink, Jan Wouter Drijfhout, Harm Nijveen, Jack A. M. Leunissen, Mirjam H. M. Heemskerk, J. H. Frederik Falkenburg, and Peter A. van Veelen*
- 1844 **Significant Modifications of the Salivary Proteome Potentially Associated with Complications of Down Syndrome Revealed by Top-down Proteomics**
[S] *Tiziana Cabras, Elisabetta Pisano, Caterina Montaldo, Maria Rita Giuca, Federica Iavarone, Giuseppe Zampino, Massimo Castagnola, and Irene Messina*
- 1853 **The Effect of Proteasome Inhibition on the Generation of the Human Leukocyte Antigen (HLA) Peptidome**
[S] *Elena Milner, Lilach Gutter-Kapon, Michal Bassani-Strenberg, Eilon Barnea, Ilan Beer, and Arie Admon*

On the cover: A multidisciplinary approach for refining target specificity of peptide aptamers. A dual-specificity peptide aptamer was subjected to random mutagenesis within the variable loop (Pink) followed by determination of target binding by an array-based yeast two-hybrid analysis. Binding phenotype and sequence data were used to qualify various conformers derived by biomolecular computer simulation on the French supercomputing network "GENCI". Differential activity of the refined peptide aptamers was validated in functional studies in cells. For details, see the article by Silvia Dibenedetto, *et al.*, pages 1939–1952.

- 1865 **iTRAQ Based Quantitative Proteomics Approach Validated the Role of Calcyclin Binding Protein (CacyBP) in Promoting Colorectal Cancer Metastasis**
 [S] *Dipanjana Ghosh, Zhihan Li, Xing Fei Tan, Teck Kwang Lim, Yubin Mao, and Qingsong Lin*
- 1881 **Squeezers and Leaf-cutters: Differential Diversification and Degeneration of the Venom System in Toxiciferan Reptiles**
 [S] *Bryan G. Fry, Eivind A. B. Undheim, Syed A. Ali, Timothy N. W. Jackson, Jordan Debono, Holger Scheib, Tim Ruder, David Morgenstern, Luke Cadwallader, Darryl Whitehead, Rob Nabuurs, Louise van der Weerd, Nicolas Vidal, Kim Roelants, Iwan Hendriks, Sandy Pineda Gonzalez, Ivan Koludarov, Alun Jones, Glenn F. King, Agostinho Antunes, and Kartik Sunagar*
- 1900 **Integrative Omics Analysis Reveals the Importance and Scope of Translational Repression in microRNA-mediated Regulation**
 [S] ✕ *Qi Liu, Patrick J. Halvey, Yu Shyr, Robbert J. C. Slebos, Daniel C. Liebler, and Bing Zhang*
- 1912 **Identification of a Chloroplast Ribonucleoprotein Complex Containing *Trans*-splicing Factors, Intron RNA, and Novel Components**
 [S] *Jessica Jacobs, Christina Marx, Vera Kock, Olga Reifschneider, Benjamin Fränzel, Christoph Krisp, Dirk Wolters, and Ulrich Kück*
- 1926 **Proteomic Identification of VEGF-dependent Protein Enrichment to Membrane Caveolar-raft Microdomains in Endothelial Progenitor Cells**
Anastasia Chillà, Francesca Magherini, Francesca Margheri, Anna Laurenzana, Tania Gamberi, Luca Bini, Laura Bianchi, Giovanna Danza, Benedetta Mazzanti, Simona Serrati, Alessandra Modesti, Mario Del Rosso, and Gabriella Fibbi
- 1939 **Calcineurin A versus NS5A-TP2/HD Domain Containing 2: A Case Study of Site-directed Low-frequency Random Mutagenesis for Dissecting Target Specificity of Peptide Aptamers**
 [S] ✕ *Silvia Dibenedetto, David Cluet, Pierre-Nicolas Stebe, Véronique Baumle, Jérémie Léault, Raphaël Terreux, Marc Bickle, Benoit D. E. Chassey, Ivan Mikaelian, Pierre Colas, Martin Spichthy, Michele Zoli, and Brian B. Rudkin*
- 1953 **TvMP50 is an Immunogenic Metalloproteinase during Male Trichomoniasis**
 [S] *Laura Itzel Quintas-Granados, José Luis Villalpando, Laura Isabel Vázquez-Carrillo, Rossana Arroyo, Guillermo Mendoza-Hernández, and María Elizabeth Álvarez-Sánchez*
- 1965 **Protein Sets Define Disease States and Predict *In Vivo* Effects of Drug Treatment**
 [S] *David Meierhofer, Christopher Weidner, Ludger Hartmann, Johannes A. Mayr, Chung-Ting Han, Frank C. Schroeder, and Sascha Sauer*
- 1980 **Wnt3a-dependent and -independent Protein Interaction Networks of Chromatin-bound β -catenin in Mouse Embryonic Stem Cells**
 [S] *Toma Yakulov, Angelo Raggioli, Henriette Franz, and Rolf Kemler*
- 1995 **Native SILAC: Metabolic Labeling of Proteins in Prototroph Microorganisms Based on Lysine Synthesis Regulation**
 [S] *Florian Fröhlich, Romain Christiano, and Tobias C. Walther*
- 2006 **Proteomic Differences Between Hepatocellular Carcinoma and Nontumorous Liver Tissue Investigated by a Combined Gel-based and Label-free Quantitative Proteomics Study**
 [S] *Dominik A. Megger, Thilo Bracht, Michael Kohl, Maike Ahrens, Wael Naboulsi, Frank Weber, Andreas-Claudius Hoffmann, Christian Stephan, Katja Kuhlmann, Martin Eisenacher, Jörg F. Schlaak, Hideo A. Baba, Helmut E. Meyer, and Barbara Sitek*

Technological Innovation and Resource

- 2021 **Defining, Comparing, and Improving iTRAQ Quantification in Mass Spectrometry Proteomics Data**
 [S] *Lina Hultin-Rosenberg, Jenny Forshed, Rui M. M. Branca, Janne Lehtiö, and Henrik J. Johansson*

AUTHOR INDEX

- Admon, Arie, 1853
Ahrens, Maïke, 2006
Ali, Syed A., 1881
An, Su, 1818
Ansong, Charles, 1791
Antunes, Agostinho, 1881
Arroyo, Rossana, 1953
- Baba, Hideo A., 2006
Barnea, Eilon, 1853
Bassani-Strenberg, Michal, 1853
Battello, Nadia, 1764
Baumle, Véronique, 1939
Beer, Ilan, 1853
Bianchi, Laura, 1926
Bickle, Marc, 1939
Billing, Anja M., 1764
Bini, Luca, 1926
Bracht, Thilo, 2006
Branca, Rui M. M., 2021
- Cabras, Tiziana, 1844
Cadwallader, Luke, 1881
Castagnola, Massimo, 1844
Chasey, Benoit D. E., 1939
Chen, Lingling, 1818
Chillà, Anastasia, 1926
Christiano, Romain, 1995
Cluet, David, 1939
Colas, Pierre, 1939
Corthals, Garry L., 1752
Crappé, Jeroen, 1780
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de Ru, Arnoud H., 1829
Debono, Jordan, 1881
Del Rosso, Mario, 1926
Dibenedetto, Silvia, 1939
Drijfhout, Jan Wouter, 1829
- Eisenacher, Martin, 2006
El-Banna, Mukarram, 1806
Elizabeth Álvarez-Sánchez, María, 1953
- Falkenburg, J. H. Frederik, 1829
Fei Tan, Xing, 1865
Fibbi, Gabriella, 1926
Forshed, Jenny, 2021
Fortuin, Suereta, 1791
Franz, Henriette, 1980
Fränzel, Benjamin, 1912
Fröhlich, Florian, 1995
Fry, Bryan G., 1881
- Gamberi, Tania, 1926
Gevaert, Kris, 1780
Ghosh, Dipanjana, 1865
Giuca, Maria Rita, 1844
Gutter-Kapon, Lilach, 1853
- Halvey, Patrick J., 1900
Han, Chung-Ting, 1965
Hartmann, Ludger, 1965
Hassan, Chopie, 1829
Heemskerck, Mirjam H. M., 1829
Hendrikx, Iwan, 1881
Hoffmann, Andreas-Claudius, 2006
Hofstad, Beth A., 1791
Hombrink, Pleun, 1829
Huang, Ling, 1806
Hultin-Rosenberg, Lina, 2021
- Iavarone, Federica, 1844
Isabel Vázquez-Carrillo, Laura, 1953
Itzel Quintas-Granados, Laura, 1953
Ivaska, Johanna, 1752
- Jackson, Timothy N. W., 1881
Jacobs, Jessica, 1912
Johansson, Henrik J., 2021
Jones, Alun, 1881
- Kemler, Rolf, 1980
Kester, Michel G. D., 1829
King, Glenn F., 1881
Koch, Alexander, 1780
Kock, Vera, 1912
Kohl, Michael, 2006
Koludarov, Ivan, 1881
Krisp, Christoph, 1912
Kück, Ulrich, 1912
Kuhlmann, Katja, 2006
Kwang Lim, Teck, 1865
- Lai, Ren, 1818
Laurenzana, Anna, 1926
Léault, Jérémie, 1939
Lehtiö, Janne, 2021
Leunissen, Jack A. M., 1829
Li, Zhihan, 1865
Liebler, Daniel C., 1900
Lin, Qingsong, 1865
Liu, Qi, 1900
Liu, Xiaoyu, 1818
Liu, Zhigang, 1818
Lobel, Peter, 1806
Long, Chengbo, 1818
Lu, Xingre, 1818
Luis Villalpando, José, 1953

Magherini, Francesca, 1926
 Mao, Yubin, 1865
 Margheri, Francesca, 1926
 Marx, Christina, 1912
 Mayr, Johannes A., 1965
 Mazzanti, Benedetta, 1926
 Megger, Dominik A., 2006
 Meierhofer, David, 1965
 Mendoza-Hernández, Guillermo, 1953
 Menschaert, Gerben, 1780
 Messana, Irene, 1844
 Meyer, Helmut E., 2006
 Mikaelian, Ivan, 1939
 Milner, Elena, 1853
 Modesti, Alessandra, 1926
 Montaldo, Caterina, 1844
 Moore, Dirk F., 1806
 Morgenstern, David, 1881
 Muller, Claude P., 1764

 Naboulsi, Wael, 2006
 Nabuurs, Rob, 1881
 Nijveen, Harm, 1829
 Notelaers, Tineke, 1780

 Panisko, Ellen A., 1791
 Pederson, LeeAnna M., 1791
 Pineda Gonzalez, Sandy, 1881
 Pisano, Elisabetta, 1844

 Raggioli, Angelo, 1980
 Reifschneider, Olga, 1912
 Revets, Dominique, 1764
 Roelants, Kim, 1881
 Rong, Mingqiang, 1818
 Ruder, Tim, 1881
 Rudkin, Brian B., 1939

 Sauer, Sascha, 1965
 Scheib, Holger, 1881
 Schlaak, Jörg F., 2006
 Schmitz, Stephanie, 1764
 Schroeder, Frank C., 1965
 Serrati, Simona, 1926

 Shukla, Anil K., 1791
 Shyr, Yu, 1900
 Sitek, Barbara, 2006
 Sleat, David E., 1806
 Slebos, Robbert J. C., 1900
 Smith, Richard D., 1791
 Spichy, Martin, 1939
 Stebe, Pierre-Nicolas, 1939
 Stephan, Christian, 2006
 Sun, Pengling, 1806
 Sunagar, Kartik, 1881

 Terreux, Raphaël, 1939
 Turner, Jonathan D., 1764

 Undheim, Eivind A.B., 1881

 Van Criekinge, Wim, 1780
 Van Damme, Petra, 1780
 van der Weerd, Louise, 1881
 van Veelen, Peter A., 1829
 Vernocchi, Sara, 1764
 Vidal, Nicolas, 1881

 Walther, Tobias C., 1995
 Webb-Robertson, Bobbie-Jo, 1791
 Weber, Frank, 2006
 Weidner, Christopher, 1965
 Westermarck, Jukka, 1752
 Whitehead, Darryl, 1881
 Wiedner, Susan D., 1791
 Wiseman, Jennifer A., 1806
 Wolters, Dirk, 1912
 Wright, Aaron T., 1791

 Xu, Xuemei, 1818

 Yakulov, Toma, 1980

 Zampino, Giuseppe, 1844
 Zhang, Bing, 1900
 Zheng, Haiyan, 1806
 Zoli, Michele, 1939