

Editorial

- 1731 **On Credibility, Clarity, and Compliance**
‡ *Al Burlingame, Steven A. Carr, Ralph A. Bradshaw, and Robert J. Chalkley*

Research

- 1734 **Quantitative Proteomics of Human Fibroblasts with I1061T Mutation in Niemann–Pick C1 (NPC1) Protein Provides Insights into the Disease Pathogenesis**
[S] *Navin Rauniyar, Kanagaraj Subramanian, Mathieu Lavallée-Adam, Salvador Martínez-Bartolomé, William E. Balch, and John R. Yates, III*
- 1750 **Glycomic Analysis of Life Stages of the Human Parasite *Schistosoma mansoni* Reveals Developmental Expression Profiles of Functional and Antigenic Glycan Motifs**
[S] ‡ *Cornelis H. Smit, Angela van Diepen, D. Linh Nguyen, Manfred Wuhrer, Karl F. Hoffmann, André M. Deelder, and Cornelis H. Hokke*
- 1770 **Endoplasmic Reticulum Aminopeptidase 1 (ERAP1) Polymorphism Relevant to Inflammatory Disease Shapes the Peptidome of the Birdshot Chorioretinopathy-Associated HLA-A*29:02 Antigen**
[S] *Carlos Alvarez-Navarro, Adrian Martín-Esteban, Eilon Barnea, Arie Admon, and José A. López de Castro*
- 1781 **BioID-based Identification of Skp Cullin F-box (SCF)^{β-TrCP1/2} E3 Ligase Substrates**
[S] *Etienne Coyaud, Monika Mis, Estelle M. N. Laurent, Wade H. Dunham, Amber L. Couzens, Melanie Robitaille, Anne-Claude Gingras, Stephane Angers, and Brian Raught*
- 1796 **Identification of Regulatory and Cargo Proteins of Endosomal and Secretory Pathways in *Arabidopsis thaliana* by Proteomic Dissection**
[S] *William Heard, Jan Sklenář, Daniel F. A. Tomé, Silke Robatzek, and Alexandra M. E. Jones*
- 1814 **Combined Proteomics and Transcriptomics Identifies Carboxypeptidase B1 and Nuclear Factor κB (NF-κB) Associated Proteins as Putative Biomarkers of Metastasis in Low Grade Breast Cancer**
[S] *Pavel Bouchal, Monika Dvořáková, Theodoros Roumeliotis, Zbyněk Bortlíček, Ivana Ihnatová, Iva Procházková, Jenny T. C. Ho, Josef Maryáš, Hana Imrichová, Eva Budinská, Rostislav Vyzula, Spiros D. Garbis, Bořivoj Vojtěšek, and Rudolf Nentl*
- 1831 **Proteomic Analysis of Connexin 43 Reveals Novel Interactors Related to Osteoarthritis**
[S] *Raquel Gago-Fuentes, Patricia Fernández-Puente, Diego Megias, Paula Carpintero-Fernández, Jesus Mateos, Benigno Acea, Eduardo Fonseca, Francisco Javier Blanco, and María Dolores Mayan*

On the cover: A schematic view of the process of identifying and mapping the antigenic determinants recognized by the immune system of infected patients. Infection with *Trypanosoma cruzi* leads to a chronic disease, during which there is a strong humoral response. Purified immunoglobulins from infected and healthy (not shown) subjects were used to screen high-density peptide chips displaying tiling arrays of peptides that in concert span the whole length of >450 parasite proteins. Based on the signal obtained from the arrays, antibody-binding profiles were reconstructed for all proteins. In these profiles the green curves correspond to the disease-specific signal (after subtraction of signal from healthy subjects). In the image: 1) cartoon representation of a *T. cruzi* *trypomastigote* (bloodstream form), human and immunoglobulins and 2) microarray image obtained from laser scanning. Two additional zoom levels are shown in circles at the left: 3) three antibody binding profiles are shown, overlapped, corresponding to two novel antigens discovered in this work, and a non-antigen (no green signal). For details, see the article by Santiago J. Carmona, *et al.*, pages 1871–1884.

- 1846 **A Comprehensive Immunoreceptor Phosphotyrosine-based Signaling Network Revealed by Reciprocal Protein–Peptide Array Screening**
 [S] *Huadong Liu, Lei Li, Courtney Voss, Feng Wang, Juewen Liu, and Shawn Shun-Cheng Li*
- 1859 **Proteomic Analysis of ABCA1-Null Macrophages Reveals a Role for Stomatin-Like Protein-2 in Raft Composition and Toll-Like Receptor Signaling**
 [S] *Saiful M. Chowdhury, Xuwei Zhu, Jim J. Aloor, Kathleen M. Azzam, Kristin A. Gabor, William Ge, Kezia A. Addo, Kenneth B. Tomer, John S. Parks, and Michael B. Fessler*
- 1871 **Towards High-throughput Immunomics for Infectious Diseases: Use of Next-generation Peptide Microarrays for Rapid Discovery and Mapping of Antigenic Determinants**
 [S] ✎ *Santiago J. Carmona, Morten Nielsen, Claus Schafer-Nielsen, Juan Mucci, Jaime Altcheh, Virginia Balouz, Valeria Tekiel, Alberto C. Frasch, Oscar Campetella, Carlos A. Buscaglia, and Fernán Agüero*
- 1885 **Understanding the Mechanism of Thermotolerance Distinct From Heat Shock Response Through Proteomic Analysis of Industrial Strains of *Saccharomyces cerevisiae***
 [S] *Wenqing Shui, Yun Xiong, Weidi Xiao, Xianni Qi, Yong Zhang, Yuping Lin, Yufeng Guo, Zhidan Zhang, Qinhong Wang, and Yanhe Ma*
- 1898 **Sequential Elution Interactome Analysis of the Mind Bomb 1 Ubiquitin Ligase Reveals a Novel Role in Dendritic Spine Outgrowth**
 [S] *Joseph Mertz, Haiyan Tan, Vishwajeeth Pagala, Bing Bai, Ping-Chung Chen, Yuxin Li, Ji-Hoon Cho, Timothy Shaw, Xusheng Wang, and Junmin Peng*
- 1911 **Architecture of a Host–Parasite Interface: Complex Targeting Mechanisms Revealed Through Proteomics**
 [S] ✎ *Catarina Gadelha, Wenzhu Zhang, James W. Chamberlain, Brian T. Chait, Bill Wickstead, and Mark C. Field*
- 1927 **Novel Host Proteins and Signaling Pathways in Enteropathogenic *E. coli* Pathogenesis Identified by Global Phosphoproteome Analysis**
 [S] *Roland Scholz, Koshi Imami, Nichollas E. Scott, William S. Trimble, Leonard J. Foster, and B. Brett Finlay*
- 1946 **Preserved Proteins from Extinct *Bison latifrons* Identified by Tandem Mass Spectrometry; Hydroxylysine Glycosides are a Common Feature of Ancient Collagen**
 [S] *Ryan C. Hill, Matthew J. Wither, Travis Nemkov, Alexander Barrett, Angelo D’Alessandro, Monika Dzieciatkowska, and Kirk C. Hansen*
- 1959 **Activating *PIK3CA* Mutations Induce an Epidermal Growth Factor Receptor (EGFR)/ Extracellular Signal-regulated Kinase (ERK) Paracrine Signaling Axis in Basal-like Breast Cancer**
 [S] *Christian D. Young, Lisa J. Zimmerman, Daisuke Hoshino, Luigi Formisano, Ariella B. Hanker, Michael L. Gatz, Meghan M. Morrison, Preston D. Moore, Corbin A. Whitwell, Bhuvanesh Dave, Thomas Stricker, Neil E. Bhol, Grace O. Silva, Premal Patel, Dana M. Brantley-Sieders, Maren Levin, Marina Horiates, Norma A. Palma, Kai Wang, Philip J. Stephens, Charles M. Perou, Alissa M. Weaver, Joyce A. O’Shaughnessy, Jenny C. Chang, Ben Ho Park, Daniel C. Liebler, Rebecca S. Cook, and Carlos L. Arteaga*
- 1977 **Cell Surface Proteomics Provides Insight into Stage-Specific Remodeling of the Host-Parasite Interface in *Trypanosoma brucei***
 [S] *Michelle M. Shimogawa, Edwin A. Saada, Ajay A. Vashisht, William D. Barshop, James A. Wohlschlegel, and Kent L. Hill*
- 1989 **Global Proteomics Analysis of the Response to Starvation in *C. elegans***
 [S] ✎ *Mark Larance, Ehsan Pourkarimi, Bin Wang, Alejandro Brenes Murillo, Robert Kent, Angus I. Lamond, and Anton Gartner*
- 2002 **Quantitative Proteomics Reveals Dynamic Interactions of the Minichromosome Maintenance Complex (MCM) in the Cellular Response to Etoposide Induced DNA Damage**
 [S] ✎ *Romain Drissi, Marie-Line Dubois, Mélanie Douziech, and François-Michel Boisvert*

2014



The Impact II, a Very High-Resolution Quadrupole Time-of-Flight Instrument (QTOF) for Deep Shotgun Proteomics

Scarlet Beck, Annette Michalski, Oliver Raether, Markus Lubeck, Stephanie Kaspar, Niels Goedecke, Carsten Baessmann, Daniel Hornburg, Florian Meier, Igor Paron, Nils A. Kulak, Juergen Cox, and Matthias Mann

Technological Innovations and Resources

2030



A Double-Barrel Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS) System to Quantify 96 Interactomes per Day

Fabian Hosp, Richard A. Scheltema, H. Christian Eberl, Nils A. Kulak, Eva C. Keilhauer, Korbinian Mayr, and Matthias Mann

AUTHOR INDEX

- Acea, Benigno, 1831
Addo, Kezia A., 1859
Admon, Arie, 1770
Agüero, Fernán, 1871
Aloor, Jim J., 1859
Altcheh, Jaime, 1871
Alvarez-Navarro, Carlos, 1770
Angers, Stephane, 1781
Arteaga, Carlos L., 1959
Azzam, Kathleen M., 1859
- Baessmann, Carsten, 2014
Bai, Bing, 1898
Balch, William E., 1734
Balouz, Virginia, 1871
Barnea, Eilon, 1770
Barrett, Alexander, 1946
Barshop, William D., 1977
Beck, Scarlet, 2014
Bhola, Neil E., 1959
Blanco, Francisco Javier, 1831
Boisvert, François-Michel, 2002
Bortlíček, Zbyněk, 1814
Bouchal, Pavel, 1814
Bradshaw, Ralph A., 1731
Brantley-Sieders, Dana M., 1959
Brenes Murillo, Alejandro, 1989
Brett Finlay, B., 1927
Budinská, Eva, 1814
Burlingame, Al, 1731
Buscaglia, Carlos A, 1871
- Campetella, Oscar, 1871
Carmona, Santiago J, 1871
Carpintero-Fernández, Paula, 1831
Carr, Steven A., 1731
Chait, Brian T., 1911
Chalkley, Robert J., 1731
Chamberlain, James W., 1911
Chang, Jenny C., 1959
Chen, Ping-Chung, 1898
Cho, Ji-Hoon, 1898
Chowdhury, Saiful M., 1859
Cook, Rebecca S., 1959
Couzens, Amber L., 1781
Cox, Juergen, 2014
Coyaud, Etienne, 1781
- D'Alessandro, Angelo, 1946
Dave, Bhuvanesh, 1959
Deelder, André M., 1750
Douziech, Mélanie, 2002
Drissi, Romain, 2002
Dubois, Marie-Line, 2002
- Dunham, Wade H., 1781
Dvořáková, Monika, 1814
Dziedziatowska, Monika, 1946
- Eberl, H. Christian, 2030
- Fernández-Puente, Patricia, 1831
Fessler, Michael B., 1859
Field, Mark C., 1911
Fonseca, Eduardo, 1831
Formisano, Luigi, 1959
Foster, Leonard J., 1927
Frasch, Alberto C, 1871
- Gabor, Kristin A., 1859
Gadelha, Catarina, 1911
Gago-Fuentes, Raquel, 1831
Garbis, Spiros D., 1814
Gartner, Anton, 1989
Gatza, Michael L., 1959
Ge, William, 1859
Gingras, Anne-Claude, 1781
Goedecke, Niels, 2014
Guo, Yufeng, 1885
- Hanker, Ariella B., 1959
Hansen, Kirk C., 1946
Heard, William, 1796
Hill, Kent L., 1977
Hill, Ryan C., 1946
Ho, Jenny T. C., 1814
Hoffmann, Karl F., 1750
Hokke, Cornelis H., 1750
Horiatos, Marina, 1959
Hornburg, Daniel, 2014
Hoshino, Daisuke, 1959
Hosp, Fabian, 2030
- Ihnatová, Ivana, 1814
Imami, Koshi, 1927
Imrichová, Hana, 1814
- Jones, Alexandra M. E., 1796
- Kaspar, Stephanie, 2014
Keilhauer, Eva C., 2030
Kent, Robert, 1989
Kulak, Nils A., 2014, 2030
- Lamond, Angus I., 1989
Larance, Mark, 1989
Laurent, Estelle M. N., 1781
Lavallée-Adam, Mathieu, 1734
Levin, Maren, 1959
Li, Lei, 1846

- Li, Shawn Shun-Cheng, 1846
 Li, Yuxin, 1898
 Liebler, Daniel C., 1959
 Lin, Yuping, 1885
 Linh Nguyen, D., 1750
 Liu, Huadong, 1846
 Liu, Juewen, 1846
 López de Castro, José A., 1770
 Lubeck, Markus, 2014
- Ma, Yanhe, 1885
 Mann, Matthias, 2014 , 2030
 Martín-Esteban, Adrian, 1770
 Martínez-Bartolomé, Salvador, 1734
 Maryáš, Josef, 1814
 Mateos, Jesus, 1831
 Mayan, Maria Dolores, 1831
 Mayr, Korbinian, 2030
 Megias, Diego, 1831
 Meier, Florian, 2014
 Mertz, Joseph, 1898
 Michalski, Annette, 2014
 Mis, Monika, 1781
 Moore, Preston D., 1959
 Morrison, Meghan M., 1959
 Mucci, Juan, 1871
- Nemkov, Travis, 1946
 Nenutil, Rudolf, 1814
 Nielsen, Morten, 1871
- O'Shaughnessy, Joyce A., 1959
- Pagala, Vishwajeeth, 1898
 Palma, Norma A., 1959
 Park, Ben Ho, 1959
 Parks, John S., 1859
 Paron, Igor, 2014
 Patel, Premal, 1959
 Peng, Junmin, 1898
 Perou, Charles M., 1959
 Pourkarimi, Ehsan, 1989
 Procházková, Iva, 1814
- Qi, Xianni, 1885
- Raether, Oliver, 2014
 Raught, Brian, 1781
 Rauniyar, Navin, 1734
 Robatzek, Silke, 1796
 Robitaille, Melanie, 1781
- Roumeliotis, Theodoros, 1814
- Saada, Edwin A., 1977
 Schafer-Nielsen, Claus, 1871
 Scheltema, Richard A., 2030
 Scholz, Roland, 1927
 Scott, Nichollas E., 1927
 Shaw, Timothy, 1898
 Shimogawa, Michelle M., 1977
 Shui, Wenqing, 1885
 Silva, Grace O., 1959
 Sklenář, Jan, 1796
 Smit, Cornelis H., 1750
 Stephens, Phillip J., 1959
 Stricker, Thomas, 1959
 Subramanian, Kanagaraj, 1734
- Tan, Haiyan, 1898
 Tekiel, Valeria, 1871
 Tomé, Daniel F. A., 1796
 Tomer, Kenneth B., 1859
 Trimble, William S., 1927
- van Diepen, Angela, 1750
 Vashisht, Ajay A., 1977
 Vojtěšek, Bořivoj, 1814
 Voss, Courtney, 1846
 Vyzula, Rostislav, 1814
- Wang, Bin, 1989
 Wang, Feng, 1846
 Wang, Kai, 1959
 Wang, Qinhong, 1885
 Wang, Xusheng, 1898
 Weaver, Alissa M., 1959
 Whitwell, Corbin A., 1959
 Wickstead, Bill, 1911
 Wither, Matthew J., 1946
 Wohlschlegel, James A., 1977
 Wuhrer, Manfred, 1750
- Xiao, Weidi, 1885
 Xiong, Yun, 1885
- Yates, John R., III, 1734
 Young, Christian D., 1959
- Zhang, Wenzhu, 1911
 Zhang, Yong, 1885
 Zhang, Zhidan, 1885
 Zhu, Xuewei, 1859
 Zimmerman, Lisa J., 1959