

## Minireview

- 1047 **E3 Ubiquitin Ligases: Key Regulators of Hormone Signaling in Plants**  
*Dior R. Kelley*

## Review

- 1055 **Development of Large-scale Cross-linking Mass Spectrometry**  
*Helena Maria Barysz and Johan Malmström*

## Research

- 1067 **In Vivo Phosphoproteome Analysis Reveals Kinome Reprogramming in Hepatocellular Carcinoma**  
[S] *Liangliang Ren, Chaoying Li, Youliang Wang, Yan Teng, Huichuan Sun, Baocai Xing, Xiao Yang, Ying Jiang, and Fuchu He*
- 1084 **Proteomics of *Aspergillus fumigatus* Conidia-containing Phagolysosomes Identifies Processes Governing Immune Evasion**  
[S] *Hella Schmidt, Sebastian Vlaic, Thomas Krüger, Franziska Schmidt, Johannes Balkenhol, Thomas Dandekar, Reinhard Guthke, Olaf Kniemeyer, Thorsten Heinekamp, and Axel A. Brakhage*
- 1097 ***Streptococcus pyogenes* Infection and the Human Proteome with a Special Focus on the Immunoglobulin G-cleaving Enzyme IdeS**  
[S] ✎ *Christofer A. Q. Karlsson, Sofia Järnum, Lena Winstedt, Christian Kjellman, Lars Björck, Adam Linder, and Johan A. Malmström*
- 1112 **Protease Activities Triggered by *Ralstonia solanacearum* Infection in Susceptible and Tolerant Tomato Lines**  
[S] *Marc Planas-Marquès, Martí Bernardo-Faura, Judith Paulus, Farnusch Kaschani, Markus Kaiser, Marc Valls, Renier A. L. van der Hoorn, and Núria S. Coll*
- 1126 **Paclitaxel Treatment and Proprotein Convertase 1/3 (PC1/3) Knockdown in Macrophages is a Promising Antiglioma Strategy as Revealed by Proteomics and Cytotoxicity Studies**  
[S] *Marie Duhamel, Mélanie Rose, Franck Rodet, Adriana Natalia Murgoci, Lea Zografidou, Anne Régnier-Vigouroux, Fabien Vanden Abeele, Firas Kobeissy, Serge Nataf, Laurent Pays, Maxence Wisztorski, Dasa Cizkova, Isabelle Fournier, and Michel Salzet*
- 1144 **Comparative Proteomics of Dying and Surviving Cancer Cells Improves the Identification of Drug Targets and Sheds Light on Cell Life/Death Decisions**  
[S] *Amir Ata Saei, Pierre Sabatier, Ülkü Güler Tokat, Alexey Chernobrovkin, Mohammad Pirmoradian, and Roman A. Zubarev*
- 1156 **Protein Acetylation and Butyrylation Regulate the Phenotype and Metabolic Shifts of the Endospore-forming *Clostridium acetobutylicum***  
[S] *Jun-Yu Xu, Zhen Xu, XinXin Liu, Minjia Tan, and Bang-Ce Ye*

On the cover: Fluorescence microscopy of a macrophage with phagocytosed conidia of the human pathogenic fungus *Aspergillus fumigatus*. The proteome of mouse macrophage phagolysosomes containing melanized wild-type (green) or non-melanized avirulent mutant conidia (blue) was comparatively analyzed by LC-MS/MS to identify processes involved in immune evasion. For details see the article by Hella Schmidt, et al, pages 1084–1096.

- 1170 **Proteotranscriptomic Measurements of E6-Associated Protein (E6AP) Targets in DU145 Prostate Cancer Cells**  
 Twishi Gulati, Cheng Huang, Franco Caramia, Dinesh Raghu, Piotr J. Paul, Robert J. A. Goode, Simon P. Keam, Scott G. Williams, Sue Haupt, Oded Kleifeld, Ralf B. Schittenhelm, Cristina Gamell, and Ygal Haupt
- 1184 **Proteomic Analysis of the Cell Cycle of Procylic Form *Trypanosoma brucei***  
 Thomas W. M. Crozier, Michele Tinti, Richard J. Wheeler, Tony Ly, Michael A. J. Ferguson, and Angus I. Lamond
- 1196 **Promyelocytic Leukemia Protein (PML) Requirement for Interferon-induced Global Cellular SUMOylation**  
 Mohamed Ali Maroui, Ghizlane Maarifi, Francis P. McManus, Frédéric Lamoliatte, Pierre Thibault, and Mounira K. Chelbi-Alix
- 1209 **Quantitative Phosphoproteomic and Metabolomic Analyses Reveal GmMYB173 Optimizes Flavonoid Metabolism in Soybean under Salt Stress**  
 Erxu Pi, Chengmin Zhu, Wei Fan, Yingying Huang, Liqun Qu, Yangyang Li, Qinyi Zhao, Feng Ding, Lijuan Qiu, Huizhong Wang, B. W. Poovaiah, and Liqun Du
- 1225 **N- and O-glycosylation Analysis of Human C1-inhibitor Reveals Extensive Mucin-type O-Glycosylation**  
 Kathrin Stavenhagen, H. Mehmet Kayili, Stephanie Holst, Carolien A. M. Koeleman, Ruchira Engel, Diana Wouters, Sacha Zeerleder, Bekir Salih, and Manfred Wuhrer

## Technological Innovation and Resources

- 1239 **Panorama Public: A Public Repository for Quantitative Data Sets Processed in Skyline**  
 Vagisha Sharma, Josh Eckels, Birgit Schilling, Christina Ludwig, Jacob D. Jaffe, Michael J. MacCoss, and Brendan MacLean
- 1245 **Implementation of a Multiplex and Quantitative Proteomics Platform for Assessing Protein Lysates Using DNA-Barcoded Antibodies**  
 Jinho Lee, Gary K. Geiss, Gokhan Demirkan, Christopher P. Vellano, Brian Filanoski, Yiling Lu, Zhenlin Ju, Shuangxing Yu, Huifang Guo, Lisa Y. Bogatzki, Warren Carter, Rhonda K. Meredith, Savitri Krishnamurthy, Zhiyong Ding, Joseph M. Beechem, and Gordon B. Mills

## AUTHOR INDEX

- Abeele, Fabien Vanden, 1126  
Ali Maroui, Mohamed, 1196  
Ata Saei, Amir, 1144
- Balkenhol, Johannes, 1084  
Beechem, Joseph M., 1245  
Bernardo-Faura, Martí, 1112  
Björck, Lars, 1097  
Bogatzki, Lisa Y., 1245  
Brakhage, Axel A., 1084
- Caramia, Franco, 1170  
Carter, Warren, 1245  
Chelbi-Alix, Mounira K., 1196  
Chernobrovkin, Alexey, 1144  
Cizkova, Dasa, 1126  
Coll, Núria S., 1112  
Crozier, Thomas W. M., 1184
- Dandekar, Thomas, 1084  
Demirkan, Gokhan, 1245  
Ding, Feng, 1209  
Ding, Zhiyong, 1245  
Duhamel, Marie, 1126  
Du, Liqun, 1209
- Eckels, Josh, 1239  
Engel, Ruchira, 1225
- Fan, Wei, 1209  
Ferguson, Michael A. J., 1184  
Filanoski, Brian, 1245  
Fournier, Isabelle, 1126
- Gamell, Cristina, 1170  
Geiss, Gary K., 1245  
Goode, Robert J. A., 1170  
Gulati, Twishi, 1170  
Guo, Huifang, 1245  
Guthke, Reinhard, 1084
- Haupt, Sue, 1170  
Haupt, Ygal, 1170  
He, Fuchu, 1067  
Heinekamp, Thorsten, 1084  
Holst, Stephanie, 1225  
Huang, Cheng, 1170  
Huang, Yingying, 1209
- Jaffe, Jacob D., 1239  
Järnum, Sofia, 1097  
Jiang, Ying, 1067  
Ju, Zhenlin, 1245
- Kaiser, Markus, 1112  
Kaschani, Farnusch, 1112  
Karlsson, Christofer A. Q., 1097  
Keam, Simon P., 1170  
Kelley, Dior R., 1047  
Kjellman, Christian, 1097  
Kleifeld, Oded, 1170  
Kniemeyer, Olaf, 1084  
Kobeissy, Firas, 1126  
Koeleman, Carolien A. M., 1225  
Krishnamurthy, Savitri, 1245  
Krüger, Thomas, 1084
- Lamoliatte, Frédéric, 1196  
Lamond, Angus I., 1184  
Lee, Jinho, 1245  
Li, Chaoying, 1067  
Linder, Adam, 1097  
Liu, XinXin, 1156  
Li, Yangyang, 1209  
Ludwig, Christina, 1239  
Lu, Yiling, 1245  
Ly, Tony, 1184
- Maarifi, Ghizlane, 1196  
MacCoss, Michael J., 1239  
MacLean, Brendan, 1239  
Malmström, Johan, 1055  
Malmström, Johan A., 1097  
Manfred Wuhrer, 1225  
Maria Barysz, Helena, 1055  
McManus, Francis P., 1196  
Mehmet Kayili, H., 1225  
Meredith, Rhonda K., 1245  
Mills, Gordon B., 1245  
Murgoci, Adriana Natalia, 1126
- Nataf, Serge, 1126
- Paul, Piotr J., 1170  
Paulus, Judith, 1112  
Pays, Laurent, 1126  
Pi, Erxu, 1209  
Pirmoradian, Mohammad, 1144  
Planas-Marquès, Marc, 1112  
Poovaiah, B. W., 1209
- Qiu, Lijuan, 1209  
Qu, Liqun, 1209
- Raghu, Dinesh, 1170  
Régnier-Vigouroux, Anne, 1126  
Ren, Liangliang, 1067  
Rodet, Franck, 1126  
Rose, Mélanie, 1126

Sabatier, Pierre, 1144  
Salih, Bekir, 1225  
Salzet, Michel, 1126  
Schilling, Birgit, 1239  
Schittenhelm, Ralf B., 1170  
Schmidt, Franziska, 1084  
Schmidt, Hella, 1084  
Sharma, Vagisha, 1239  
Stavenhagen, Kathrin, 1225  
Sun, Huichuan, 1067

Tan, Minjia, 1156  
Teng, Yan, 1067  
Thibault, Pierre, 1196  
Tinti, Michele, 1184  
Tokat, Ülkü Güler, 1144

Valls, Marc, 1112  
van der Hoorn, Renier A. L., 1112  
Vellano, Christopher P., 1245  
Vlaic, Sebastian, 1084

Wang, Huizhong, 1209  
Wang, Youliang, 1067  
Wheeler, Richard J., 1184  
Williams, Scott G., 1170  
Winstedt, Lena, 1097  
Wisztorski, Maxence, 1126  
Wouters, Diana, 1225

Xing, Baocai, 1067  
Xu, Jun-Yu, 1156  
Xu, Zhen, 1156

Yang, Xiao, 1067  
Ye, Bang-Ce, 1156  
Yu, Shuangxing, 1245

Zeerleder, Sacha, 1225  
Zhao, Qinyi, 1209  
Zhu, Chengmin, 1209  
Zografidou, Lea, 1126  
Zubarev, Roman A., 1144