

Review

- 1739 **Single-cell Proteomics: Progress and Prospects**
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- 1749 **Serum Protein Profiling Reveals a Landscape of Inflammation and Immune Signaling in Early-stage COVID-19 Infection**
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- 1760 **High-speed Analysis of Large Sample Sets – How Can This Key Aspect of the Omics Be Achieved?**
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- 1767 **An in-depth Comparison of the Pediatric and Adult Urinary N-glycomes**
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- 1777 **Asparagine Hydroxylation is a Reversible Post-translational Modification**
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- 1790 **Slight Deuterium Enrichment in Water Acts as an Antioxidant: Is Deuterium a Cell Growth Regulator?**
Xuepei Zhang, Jin Wang, and Roman A. Zubarev
- 1805 **Multiomics Reveals Ectopic ATP Synthase Blockade Induces Cancer Cell Death via a lncRNA-mediated Phospho-signaling Network**
Yi-Wen Chang, Chia-Lang Hsu, Cheng-Wei Tang, Xiang-Jun Chen, Hsuan-Cheng Huang, and Hsueh-Fen Juan
- 1826 **Quantitative Proteomics Links the LRRC59 Interactome to mRNA Translation on the ER Membrane**
Molly M. Hannigan, Alyson M. Hoffman, J. Will Thompson, Tianli Zheng, and Christopher V. Nicchitta

On the Cover: Quantitative proximity proteomics reveals that the endoplasmic reticulum (ER) is organized into discrete functional domains. Using this approach, we identified the protein interactomes for four candidate ribosome interactors: SEC61b, RPN1, SEC62, and LRRC59. Strikingly, our study uncovered a key role for LRRC59 in the organization and regulation of local translation, and offers a new strategy for investigating how ER-bound ribosomes engage localized mRNAs. For details, see the article by Hannigan *et al.*, pages 1826-1849.

- 1850 **High-dimensional Cytometry (ExCYT) and Mass Spectrometry of Myeloid Infiltrate in Clinically Localized Clear Cell Renal Cell Carcinoma Identifies Novel Potential Myeloid Targets for Immunotherapy**
Debebe Theodros, Benjamin M. Murter, John-William Sidhom, Thomas R. Nirschl, David J. Clark, LiJun Chen, Ada J. Tam, Richard L. Blosser, Zeyad R. Schwen, Michael H. Johnson, Phillip M. Pierorazio, Hui Zhang, Sudipto Ganguly, Drew M. Pardoll, and Jelani C. Zarif
- 1860 **Sialylation of Asparagine 612 Inhibits Aconitase Activity during Mouse Sperm Capacitation; a Possible Mechanism for the Switch from Oxidative Phosphorylation to Glycolysis**
Ana Izabel Silva Balbin Villaverde, Rachel A. Ogle, Peter Lewis, Vincenzo Carbone, Tony Velkov, Jacob K. Netherton, and Mark A. Baker
- 1876 **Analytical Guidelines for co-fractionation Mass Spectrometry Obtained through Global Profiling of Gold Standard *Saccharomyces cerevisiae* Protein Complexes**
Chi Nam Ignatius Pang, Sara Ballouz, Daniel Weissberger, Loïc M. Thibaut, Joshua J. Hamey, Jesse Gillis, Marc R. Wilkins, and Gene Hart-Smith
- 1896 **The Capture of a Disabled Proteasome Identifies Erg25 as a Substrate for Endoplasmic Reticulum Associated Degradation**
Teresa M. Buck, Xuemei Zeng, Pamela S. Cantrell, Richard T. Cattley, Zikri Hasanbasri, Megan E. Yates, Diep Nguyen, Nathan A. Yates, and Jeffrey L. Brodsky
- 1910 **Glutathionylation Decreases Methyltransferase Activity of PRMT5 and Inhibits Cell Proliferation**
Meiqi Yi, Yingying Ma, Yuling Chen, Chongdong Liu, Qingtao Wang, and Haiteng Deng

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