

Commentary

- 432 **Guidance Document: Validation of a High-Performance Liquid Chromatography-Tandem Mass Spectrometry Immunopeptidomics Assay for the Identification of HLA Class I Ligands Suitable for Pharmaceutical Therapies**
[S] *Michael Ghosh, Marion Gauger, Ana Marcu, Annika Nelde, Monika Denk, Heiko Schuster, Hans-Georg Rammensee, and Stefan Stevanović*

Research

- 444 **Proteomic Analysis Reveals that Topoisomerase 2A is Associated with Defective Sperm Head Morphology**
[S] *Jacob Netherton, Rachel A. Ogle, Louise Hetherington, Ana Izabel Silva Balbin Villaverde, Hubert Hondermarck, and Mark A. Baker*
- 456 **Characterizing Patients with Recurrent Urinary Tract Infections in Vesicoureteral Reflux: A Pilot Study of the Urinary Proteome**
[S] *Dijana Vitko, Patricia S. Cho, Stephen A. Kostel, Shannon E. DiMartino, Lily D. Cabour, Matthew A. Migliozi, Tanya Logvinenko, Peter G. Warren, John W. Froehlich, and Richard S. Lee*
- 467 **AMPK Interactome Reveals New Function in Non-homologous End Joining DNA Repair**
[S] *Zhen Chen, Chao Wang, Antrix Jain, Mrinal Srivastava, Mengfan Tang, Huimin Zhang, Xu Feng, Litong Nie, Dan Su, Yun Xiong, Sung Yun Jung, Jun Qin, and Junjie Chen*
- 478 **The Challenge of Classifying Metastatic Cell Properties by Molecular Profiling Exemplified with Cutaneous Melanoma Cells and Their Cerebral Metastasis from Patient Derived Mouse Xenografts**
[S] ⌘ *Benjamin Neuditschko, Lukas Janker, Laura Niederstaetter, Julia Brunmair, Katharina Krivanek, Sivan Izraely, Orit Sagi-Assif, Tsipi Meshel, Bernhard K. Keppler, Giorgia Del Favero, Isaac P. Witz, and Christopher Gerner*
- 490 **Integration of IgA and IgG Autoantigens Improves Performance of Biomarker Panels for Early Diagnosis of Lung Cancer**
[S] *Jianbo Pan, Lili Yu, Qingwei Wu, Xiaoqing Lin, Shuang Liu, Shaohui Hu, Christian Rosa, Daniel Eichinger, Ignacio Pino, Heng Zhu, Jiang Qian, and Yi Huang*
- 501 **Peptidomic Analysis of Urine from Youths with Early Type 1 Diabetes Reveals Novel Bioactivity of Uromodulin Peptides *In Vitro***
[S] *Julie A. D. Van, Sergi Clotet-Freixas, Joyce Zhou, Ihor Batruch, Chunxiang Sun, Michael Glogauer, Luca Rampoldi, Yesmino Elia, Farid H. Mahmud, Etienne Sochett, Eleftherios P. Diamandis, James W. Scholey, and Ana Konvalinka*

On the Cover: Validation of the LC-MS/MS immunopeptidomics pipeline according to good manufacturing practice (GMP) to accelerate the development from experimental laboratory scale to industrial high throughput. Validation of the accuracy, precision, specificity, detection limit and robustness of the pipeline is feasible and ensures reliable performance. We hope that this validation template will accelerate vaccine development and translation into clinical practice. For details, see the article by Ghosh *et al.*, 432–443.

- 518 **Discovery of Species-unique Peptide Biomarkers of Bacterial Pathogens by Tandem Mass Spectrometry-based Proteotyping**
[S] ✎
Roger Karlsson, Annika Thorsell, Margarita Gomila, Francisco Salvà-Serra, Hedvig E. Jakobsson, Lucia Gonzales-Siles, Daniel Jaén-Luchoro, Susann Skovbjerg, Johannes Fuchs, Anders Karlsson, Fredrik Boulund, Anna Johnning, Erik Kristiansson, and Edward R. B. Moore
- 529 **N-glycosylation Site Analysis Reveals Sex-related Differences in Protein N-glycosylation in the Rice Brown Planthopper (*Nilaparvata lugens*)**
[S]
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Technological Innovation and Resources

- 540 **Concentration Determination of >200 Proteins in Dried Blood Spots for Biomarker Discovery and Validation**
[S] ✎
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- 554 **MaXLinker: Proteome-wide Cross-link Identifications with High Specificity and Sensitivity**
[S]
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