

## **What's new in biotherapeutic analysis? From modified proteins to delivery particles**

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Biomolecules used as therapeutics are becoming increasingly complex and diverse. Some of these developments present challenges for their analysis. These include the greater similarity of products and product-related impurities, the combination of different biological classes of molecules in a therapeutic (e.g. mRNA in lipid nanoparticles), and increasing molecular sizes. In addition, there is a general trend to accelerate processes and make them more efficient.

The talk will show examples of how these challenges can be overcome. It will cover how SEC-MALS improves the understanding of sample composition, how SEC can be used to characterize particle-based therapeutics such as LNPs or AAVs, how novel affinity-based chromatography bridges the gap between structural and functional analysis, even without sample preparation, and how different detection methods can be combined to decipher the composition of complex samples. This way, an update on current developments in HPLC-based analysis of biotherapeutics will be given.

## **Biography**

Andrea Krumm studied biotechnology before gaining a PhD in cancer biology. After four years as an applications specialist for optical analytical devices used in life science research, she joined Tosoh Bioscience GmbH in 2020 as a product manager for analytical columns. As such she is responsible for gathering customer requirements and application areas and addressing these with new and existing products of the analytical columns and instruments line.