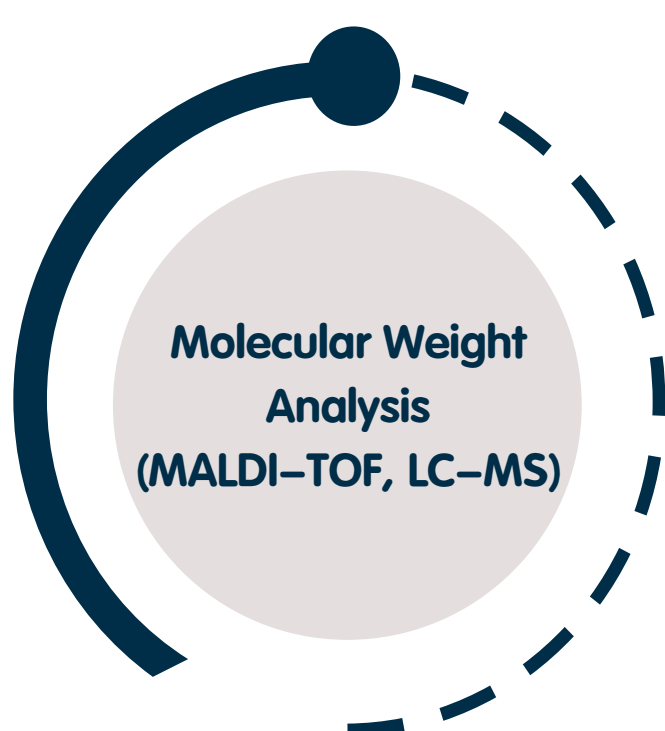
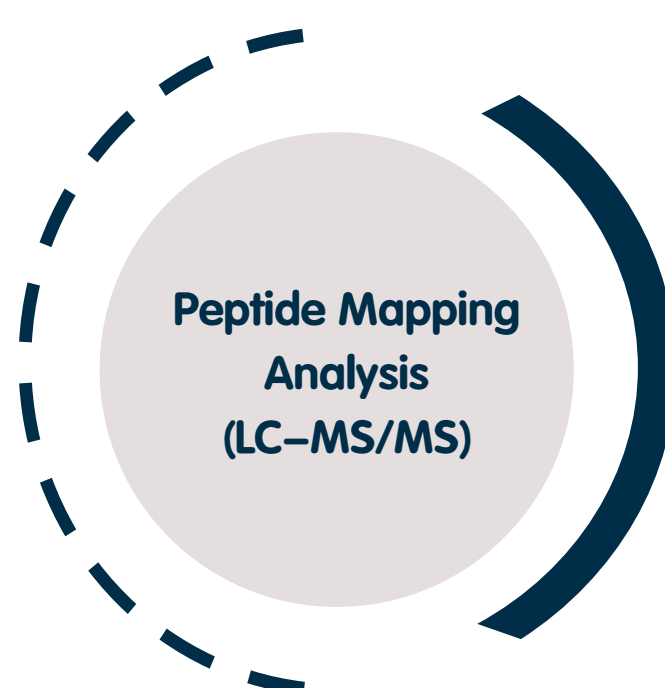


Protein and Peptide Characterization in Biopharmaceuticals



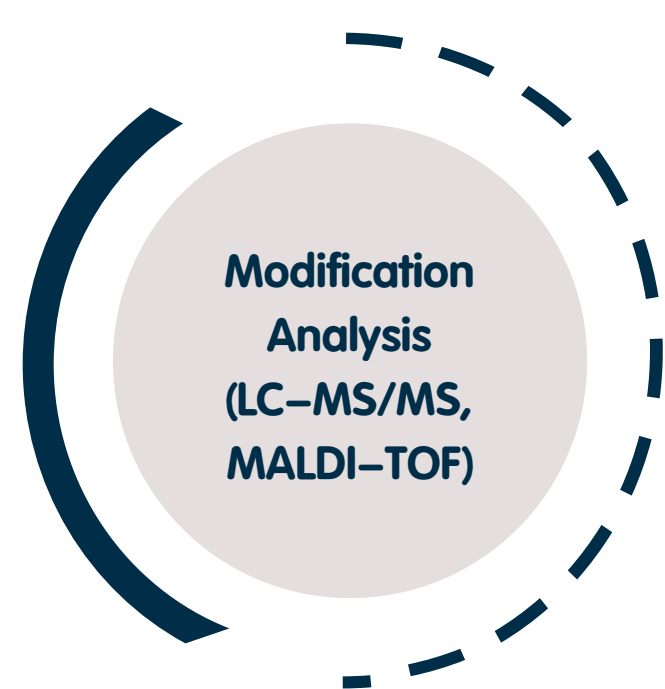
Molecular mass determination achieves precise molecular weights for protein/peptide drugs. Common protein drugs include antibodies (intact, deglycosylated, or reduced MW can be measured), growth factors, etc.; Common peptide drugs include insulin, cabergoline, terlipressin, etc.



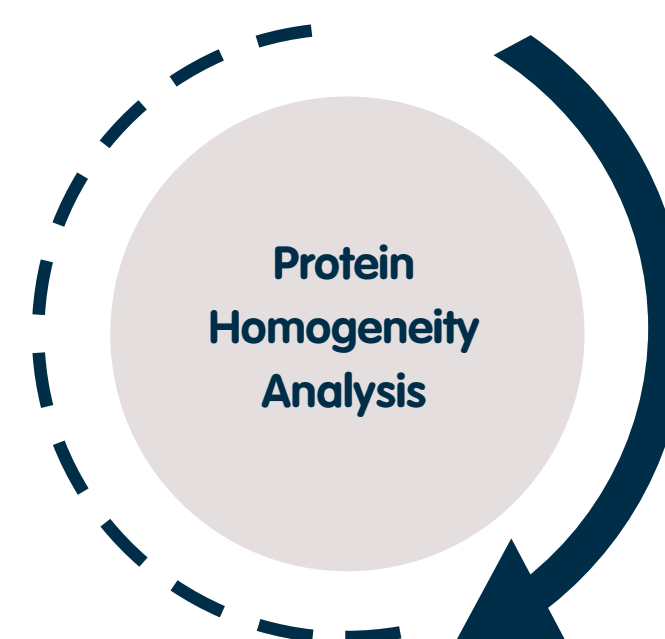
Peptide profiling of protein/peptide drug molecules is a key element of drug quality control, which is important for theoretical sequence confirmation, advanced structural analysis, and biological function study.

Peptide profiling can confirm the theoretical sequence and modification of protein/peptide.

- 1) Protein sequence confirmation: visualize theoretical sequences matching with different abundance, peptide coverage of conventional protein samples can reach up to 100%
- 2) Peptide mapping analysis: provides all information on amino acid sequences.
- 3) N/C-terminal amino acid sequence: provides N/C terminal amino acid sequence information



- 1) Glycopeptidomics analysis
- 2) N- or O-glycan profiling
- 3) Sialic acid analysis
- 4) Disulfide bond localization
- 5) Other PTMs: methylation, acetylation, phosphorylation, oxidation, etc.



- 1) Protein aggregation analysis (SEC-HPLC): protein drugs aggregate to form polymers easily. The formation of polymers may reduce the overall drug activity and enhances side effects; thus, controlling polymer content in the final product is significant.
- 2) Charge state analysis (isoelectric focusing, WCX-HPLC): the occurrence of post-translational modifications may lead to changes in charged states and isoelectric points with protein drugs.

In line with the ICH Q6B Guidance, Creative Proteomics offers protein analysis and characterization services, including structure analysis, physicochemical properties, biological activity, immunochemical properties, as well as purity and impurity determination to ensure the quality and consistency of your products.

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