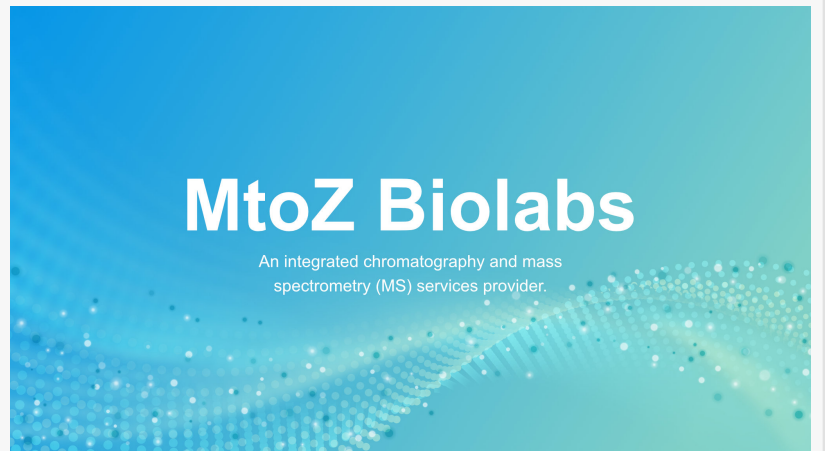


Protein Molecular Weight Determination at MtoZ Biolabs

Protein molecular weight determination for precise analysis of structure, subunit composition, and modifications, supporting research and biopharma QC.

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[Molecular weight determination of proteins](#) is a critical step in protein characterization, playing a pivotal role across various fields such as biotechnology and biomedical research. It aids in understanding the structure, integrity, and authenticity of proteins, which is essential for advancing basic research and ensuring stringent quality control in biopharmaceutical production. Through molecular weight determination of proteins, researchers can verify whether proteins have been correctly expressed, processed, or modified, making this analysis the cornerstone of protein characterization.



MtoZ Biolabs, an integrated chromatography and mass spectrometry (MS) services provider.

To meet the growing needs of researchers, MtoZ Biolabs has established various protein molecular weight identification platforms based on the principles of molecular weight determination of proteins. These platforms enable high-resolution molecular weight measurement, subunit composition analysis, and determination of dimerization/aggregation states for samples such as proteins, antibodies, vaccines, peptides, recombinant collagen, and others.

[Protein Molecular Weight Determination](#) Workflow at MtoZ Biolabs

1. Protein/Peptide/Antibody/Vaccine Molecular Weight Determination

Provides essential data for fundamental research, facilitating the confirmation of protein structures and the study of their functions.

2. Quantification of Subunits in Protein Samples

Supports researchers in elucidating the composition of protein complexes, thereby revealing underlying functional mechanisms.

3. Oligomeric State Analysis of Protein Samples

Characterizes the aggregation state of proteins, enhancing the understanding of their behavior within cellular environments.

4. Assessment of Sample Purity and Contaminants

Ensures the accuracy and reliability of research data by evaluating potential contaminants in samples.

Determination of Protein Molecular Weight Platform at MtoZ Biolabs

To address the diverse needs of protein analysis, MtoZ Biolabs has developed specialized platforms for molecular weight identification of various protein types. These platforms enable high-resolution analysis of molecular weight, subunit composition, and the state of protein aggregation or dimerization. The advanced methods cover a wide range of samples, including proteins, antibodies, vaccines, peptides, and recombinant collagen, ensuring results for researchers and industry professionals alike. Here are the primary techniques used at MtoZ Biolabs:

1. MALDI TOF Molecular Weight Analysis

- Suitable for complete mass determination of proteins with molecular weight less than 25kDa;
- During the molecular weight determination of protein or peptide samples, it can be used to analyze whether there are polymers in the protein or peptide in the sample.

2. High-Resolution LC-MS Molecular Weight Analysis

- High-resolution mass spectrometry can accurately measure the molecular weight of protein samples (10-250 kDa) with an accuracy of 1 Da;
- Analyze the modification status of proteins (such as phosphorylation, small molecule drug binding, etc.) and perform relative quantitative analysis of these modifications;
- High sensitivity and high resolution can achieve the detection of the original, reduced, and cut sugar molecular weight of antibodies, as well as the detection of antibody-drug conjugation.

3. SEC-MALS Molecular Weight Analysis

- Molecular weight and size determination of macromolecules and nanoparticles in complex mixed solutions;
- Structural and dynamic studies of proteins, polysaccharides, polymers, nanoparticles, etc.;
- Polymerization and denaturation studies of biopharmaceuticals.

Advantages of MtoZ Biolabs

With capabilities to analyze a broad range of protein types and modifications, MtoZ Biolabs ensures high-resolution data, supporting high-quality research and product development.

1. Analysis Platform

MtoZ Biolabs established determination of protein molecular weight platforms, guaranteeing reliable and fast analysis.

2. One-Time-Charge

Transparent, with no hidden fees or additional costs.

3. High-Data-Quality

Deep data coverage with strict data quality control. An AI-powered bioinformatics platform

integrates all molecular weight determination of proteins data, providing clients with a comprehensive data report.

What Could Be Included in the Report?

1. Comprehensive Experimental Details
2. Materials, Instruments, and Methods
3. Total Ion Chromatogram & Quality Control Assessment (project-dependent)
4. Data Analysis, Preprocessing, and Estimation (project-dependent)
5. Bioinformatics Analysis
6. Raw Data Files

Our comprehensive analysis platforms are designed to deliver high-resolution data, providing valuable insights into the structural integrity, subunit composition, and modifications of your protein samples. Whether you are studying protein-protein interactions, developing biopharmaceuticals, or conducting quality control, our techniques, including MALDI TOF, LC-MS, and SEC-MALS, can meet your specific needs.

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