# Advantages Of Hiring LC-MS/MS Analysis Lab For Your Therapeutic Peptides

LC-MS/MS analysis is increasingly becoming an essential bioanalytical technique in the drug development environment. Routine applications such as drug monitoring and toxicological studies have opened up new avenues for lc ms analysis in clinical research laboratories. One such early application includes the use of an LC-MS analyzer to evaluate inborn metabolic errors. Analyzing multiple analytes in a single run has made LC-MS/MS detection a fundamental tool for diagnosing several more clinical conditions.

## But what is LC-MS/MS?

LC-MS stands for lcms testing. LC-MS/MS is an **HPLC testing** assay with two mass spectrometry detection units. Researchers and scientists have been routinely employing LC-MS bioanalysis in the drug development process. Hence, adequate method development and LC-MS validation are a priority before initiating any LC-MS/MS analysis. As mass spectrometry offers enhanced sensitivity and selectivity, it is an ideal choice in the analysis of small molecules such as proteins and therapeutic peptides.

**But why should I prefer an LC-MS/MS lab?**

Quantifying protein and peptides is fundamental in understanding the ever-evolving protein dynamics. Peptides and proteins are central to any biological research. To fully comprehend the complexity of any living system, it is critical to be able to quantify proteins and peptides with high throughput. Hence, almost all research begins with the quantification of proteins for the study of biological systems, and every quantitative measurement revolves around LC-MS quantification. All clinical scientists are aware of the working and importance of LC-MS/MS testing in the quantification of proteins and peptides. However, compared to genomic technologies, LC-MS/MS testing is not readily accessible to biological scientists. Hence, this is where **LC MS MS analysis** labs come to the rescue.



Therapeutic peptides are a particular class of amino acid monomer chains possessing desirable pharmacological properties. Lcms labs are mostly specialized in targeted proteomics, i.e., established protein biomarkers and peptides. LC-MS/MS labs offer great value in measuring proteins and peptides in clinical practice. Some of the assuring advantages of hiring an LC-MS/MS lab include:

- Analysis of analytes for which immunoassays do not exist
- Analysis of analytes for which existing immunoassays are incapable of answering all key questions
- Analysis of analytes having frequent interferences
- Analysis of analytes possessing multiple isoforms
- Substituting a tedious and complicated immunoassay

## Conclusion

LC-MS/MS quantification of therapeutic peptides has become a routine quantification in the drug development space. A significant advantage of using LC-MS/MS analysis is its ability to quantify multiple proteins, facilitating multiplexed analysis of therapeutic peptides. Several studies have shown that selected reaction monitoring (SRM) mass spectrometry having internal isotope-labeled standards are an ideal option for quantitating therapeutic peptides in complex biological samples.

However, to transit from highly skilled laboratories to routine diagnostic needs the removal of several technical barriers of accuracy, imprecision, and sample handling. Moreover, the technology for the analysis of proteins and peptides is still in its infancy, and several technical developments in equipment and procedures will be required to address any unforeseen challenges. Thus, hiring an LC-MS/MS analysis lab for the evaluation of therapeutic peptides is advantageous over performing them in less skillful environments.

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