

# Liquid Chromatography-Mass Spectrometry Market on a Rapid Growth Trajectory at a CAGR of 13.82% by 2025-2032

*LC-MS Market: Clinical diagnostics, pharmaceutical R&D, and food safety testing drive global demand for precision analytical tools*

CALIFORNIA, CA, UNITED STATES, May 30, 2025 /EINPresswire.com/ -- The global liquid chromatography mass spectrometry (LC/MS) market was US\$ 5.54 billion in 2024 and is expected to reach US\$ 11.84 billion in 2032, growing at a CAGR of 9.96% during the forecast period (2025-2032).

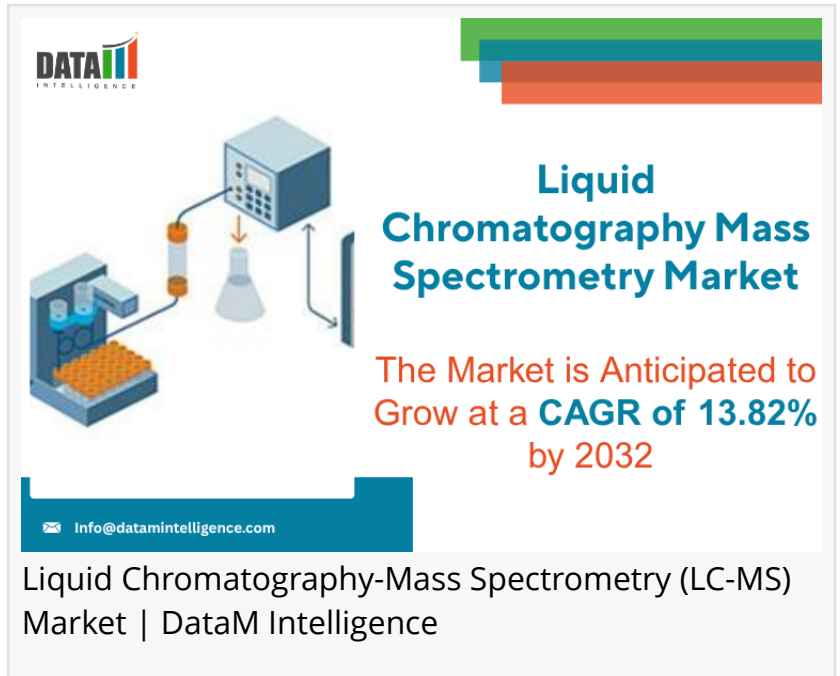
## Market Overview and Growth Trajectory

The liquid chromatography-mass spectrometry (LC-MS) market is experiencing robust growth driven by increasing demand across pharmaceuticals, biotechnology, environmental analysis, and food safety sectors. Advances in LC-MS technology, including enhanced sensitivity, accuracy, and automation, are expanding its application scope. Rising investments in R&D and stringent regulatory frameworks globally further propel market adoption.



LC-MS Market Poised for Rapid Growth Driven by Technological Innovations and Increasing Demand in Pharma and Food Safety"  
*DataM Intelligence*

In January 2022, Agilent Technologies introduced the Ultivo Triple Quadrupole LC/MS to meet the growing demand for enhanced sensitivity and robustness. This innovation addresses key needs in pharmaceutical and biotech research, particularly in the areas of personalized medicine and biopharmaceuticals.



## Key Growth Drivers: Increasing Demand in Pharmaceutical and Biotechnology Industries

Increasing demand in the pharmaceutical and biotechnology industries is a major driver for the Liquid Chromatography-Mass Spectrometry (LC-MS) market. According to the government of India, India's pharmaceutical market for FY 2023-24 is valued at USD 50 billion, with domestic consumption at USD 23.5 billion and exports at USD 26.5 billion. These industries rely heavily on LC-MS for drug discovery, development, and quality control due to its high sensitivity, accuracy, and ability to analyze complex mixtures. As pharmaceutical companies focus on developing new and more effective therapies, including biologics and personalized medicines, the need for advanced analytical techniques like LC-MS grows.

Companies are expanding their product portfolios with cutting-edge LC-MS instruments that offer improved sensitivity, faster analysis, and greater automation. They are investing heavily in research and development to deliver versatile, robust, and efficient systems that cater to the growing needs of pharmaceutical, biotechnology, clinical diagnostics, and environmental sectors. For instance, in June 2024, Thermo Fisher Scientific unveiled the Stellar LC-MS instrument. This high-performance system is designed for multiplexed targeted quantitation, offering rapid throughput, high sensitivity, and user-friendly operation to advance translational omics research.

## Restraints: High Initial Investment

The high initial cost of LC-MS equipment, along with ongoing expenses for maintenance, consumables, and specialized staff training, poses a major financial burden for smaller labs and research institutes. This cost barrier especially affects educational institutions and small businesses with limited budgets. As a result, many users opt for cheaper, traditional analytical methods, despite their lower accuracy and sensitivity. This price sensitivity limits the broader adoption of LC-MS technology, particularly in cost-conscious industries and developing countries. Affordability remains a key challenge restricting market growth and technology accessibility.

## Regional Insights:

### North America's Significant LC-MS Market Share Driven by Advanced Healthcare, Chronic Disease Prevalence, and Innovation

North America holds a significant share in the Liquid Chromatography-Mass Spectrometry (LC-MS) market primarily due to its advanced healthcare infrastructure and strong presence of pharmaceutical and biotechnology companies. The region's well-established research and development facilities, coupled with substantial investments in cutting-edge analytical technologies, drive the demand for LC-MS systems. Moreover, the growing prevalence of chronic diseases and increasing use of LC-MS in environmental and forensic applications further strengthen North America's market position.

For instance, according to the US Department of Health and Human Services, with an estimated 129 million people affected by at least one major condition such as heart disease, cancer, diabetes, obesity, or hypertension, further fuels demand for LC-MS technology. Over 90% of the annual US\$4.1 trillion healthcare expenditure in the US is related to managing these chronic diseases and mental health conditions, emphasizing the need for precise diagnostic and monitoring tools.

Moreover, the growing number of individuals managing multiple chronic conditions—42% have two or more, and 12% have at least five—drives continuous innovation and adoption of LC-MS for advanced clinical applications. Rising government funding for life sciences research, along with the expanding use of LC-MS in environmental and forensic sectors, strengthens North America's market dominance. The presence of key market players and ongoing technological advancements, such as high-resolution mass spectrometry, also contributes to the region's leadership. Collectively, these factors position North America as a major hub for LC-MS market growth and innovation.

#### Leading Market Participants:

Several major players are investing in expanding their Liquid Chromatography-Mass Spectrometry portfolios, launching next-generation instruments, and forming collaborations. Key companies include: Danaher Corporation, PerkinElmer, Inc., Waters Corporation, Bruker Corporation, Thermo Fisher Scientific Inc., Agilent Technologies, Inc., Shimadzu Corporation, JEOL Ltd., and Newomics, Inc., LECO Corporation. These companies continue to enhance their global reach through innovation, strategic partnerships, and acquisitions.

#### Latest Market Developments:

- In January 2025, Shimadzu Corporation unveiled a collaboration with the University of Tokyo to develop high-speed LC-MS workflows for metabolomics research. This initiative focuses on understanding metabolic disorders and early disease biomarkers using Japan's top-tier lab networks.
- In June 2024, Agilent Technologies partnered with Newomics Inc. to develop an LC-MS platform aimed at identifying druggable targets for drug discovery, enhancing capabilities in pharmaceutical research.

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