

Single Cell Omics Market Soars with Global Investments and Innovation | DataM Intelligence

The single cell omics market is experiencing record growth, driven by advances in technology and robust investments in the US and Japan.

PENNSYLVANIA, PA, UNITED STATES, July 25, 2025 /EINPresswire.com/ -- What Is [Single Cell Omics](#)?

Single cell omics refers to a suite of molecular analysis technologies such as genomics, transcriptomics, proteomics, and metabolomics, applied at the level of individual cells.

This high-resolution approach enables scientists to map cellular heterogeneity within tissues, discover rare cell populations driving disease, and advance the mission of personalized medicine.

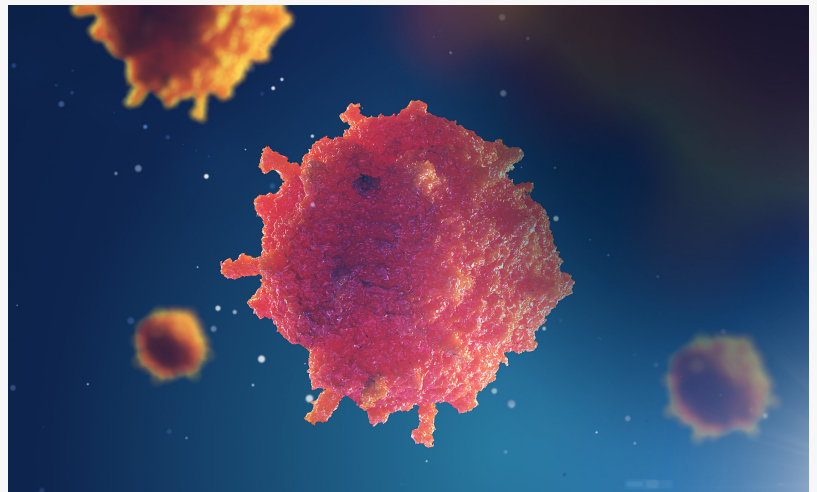
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Why Is This Important?

- **Unprecedented Insight:** Single cell analysis surpasses traditional bulk assays by pinpointing cell-level changes and dynamics invisible in averaged data.
- **Precision Medicine:** Armed with granular data, clinicians and researchers can develop customized therapies, improving outcomes in cancer, neurology, immunology, and more.

Market Growth and Dynamics

According to DataM Intelligence, the global single cell omics market is on a steep growth trajectory, Single Cell Omics Market reached US\$ 10.4 billion in 2024 and is expected to reach US\$ 33.1 billion by 2033, with compound annual growth rates (CAGR) projected between 15.8%



Single Cell Omics Market

through 2031. DataM Intelligence analysis highlights that factors such as increasing demand for personalized medicine, technological advancements, and strategic collaborations are fueling this expansion.

- Single-cell genomics represents the leading segment over single-cell proteomics, single-cell metabolomics, single-cell transcriptomics, accounting for roughly 41.5% of the market share, with applications rapidly expanding from oncology to immunology and neurology.
- Key drivers: Rapid evolution in sequencing technology and bioinformatics, greater accessibility and affordability, and growing integration in pharmaceutical R&D pipelines.

New Funding and Strategic Innovation in US Market

North America leads the global market, holding a commanding market share approximately 38.4% as of 2022 (based on DataM Intelligence) and showcasing ongoing leadership in R&D, infrastructure, and capital. Recent evidence reinforces the US's top spot:

- Strategic partnerships: In April 2025, a major initiative in Abu Dhabi involved US-based GSK to establish a multi-omics research institute, exemplifying transnational investment trends.
- NextGen Omics US 2025 Event: Held in Boston, this gathering brought together pharma, biotech, and academic leaders to unveil cutting-edge single cell and spatial genomics technology platforms, spurring fresh collaborations and pipeline investments.
- Ongoing innovation: US firms including pioneering companies like 10x Genomics and Bio-Rad Laboratories, announced new single cell multi-omics solutions and antibody panels in Q2 2025, enhancing trait resolution and clinical application readiness.

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Innovation and Rapid Expansion in Japan Market:

Japan's single cell omics market is also registering significant momentum, underpinned by innovation, government support, and major sector investments:

- Market expansion: Market value in Japan surpassed \$3.5 billion in 2024, on track to reach \$12.8 billion by 2033, with a CAGR of nearly 16% in the ensuing years.
- Recent investments (2025): The last three months have seen active collaborations between Japan's leading academic institutions, biotech startups, and global life sciences companies. These ventures target improvements in high-throughput RNA sequencing, microfluidic automation, and AI-powered data analytics.
- Government funding: Major grants and innovation hubs have supported early-stage R&D and

scaleup projects since May 2025, incentivizing cross-sector partnerships and further strengthening Japan's capabilities in both technology development and market adoption.

Key Applications: Transforming Healthcare

Single cell omics are translating directly into advances in:

- Oncology: Identification of rare cancer cell subtypes and tumor microenvironment mapping revolutionizes diagnostics and targeted therapies.
- Immunology: Personalized immune profiling to enhance vaccine design and monitor disease progression.
- Neurology and regenerative medicine: Fine mapping of neural circuits and development of bespoke cell therapies for degenerative diseases.

Dominant players driving innovation include:

- 10x Genomics
- Bio-Rad Laboratories
- Mission Bio
- SCIENION and Cellenion
- BD (Becton, Dickinson and Company)
- Nanostring Technologies

The landscape is marked by strategic cross-border partnerships and M&A activity, propelling new technology launches and scale.

Single Cell Omics Market Trends, Challenges, and Outlook

Trends

- Multi-omics tech: Integrated analysis of proteomics, transcriptomics, and genomics at single cell precision.
- Automated workflows: Enhanced reproducibility, lower costs, and scalability.
- AI integration: Streamlined data interpretation, enabling high-volume clinical and research deployments.

Challenges

- Ethical considerations: Data privacy, consent, and potential for misuse require vigilant governance.
- Cost barriers: Despite improvements, high setup and data analysis costs persist, especially for smaller research institutions.
- Regulatory: Navigating complex approval pathways remains a hurdle for widespread clinical integration.

Outlook

Based on DataM Intelligence analysis, robust investment, advancing technologies, and expanded

global collaboration are expected to propel the single cell omics market sharply upward through 2031 and beyond, especially in the US and Japan.

Conclusion

Single cell omics is redefining biomedical research and clinical care through high-resolution molecular insights. Driven by technological innovation and record-breaking investments particularly in North America and Asia-Pacific. The market promises to deliver new standards in disease understanding, diagnostics, and precision treatment. As leading nations and companies continue to invest, the world can anticipate even more profound breakthroughs in the years ahead.

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Sai Kumar

DataM Intelligence 4market Research LLP

+1 877-441-4866

sai.k@datamintelligence.com

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