

Single-cell Omics: Emerging Technologies and Markets

Market Research Report | 2025-04-04 | 129 pages | BCC Research

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Report description:

Description

Report Scope:

The report highlights the current and future market potential of single-cell genomics and proteomics and a detailed analysis of the market drivers, restraints and opportunities. The report also covers market projections for 2029, including a competitive environment and product analysis. The report provides market estimates and forecasts for single-cell genomics and proteomics based on analysis type, application, end user and region. Based on product type, the market is segmented into single-cell genomics, single-cell epigenomics and single-cell transcriptomics. The market is categorized as academic and research organizations, biopharmaceutical and biotechnology companies, and applied markets and clinical laboratories based on end user. The market is segmented into stem cell biology, oncology, immunology, microbiology and others based on application. The report includes the company profiles of the key players with detailed information about their business segments, financials, product portfolios and recent developments. By geography, the market has been organized into North America, Europe, Asia-Pacific and the Rest of the World (RoW). The North American region includes countries such as the U.S., Canada and Mexico. Europe includes Germany, the UK, Italy, France, Spain and the rest of Europe; Asia-Pacific includes countries such as China, Japan, India, Australia, South Korea and the rest of Asia-Pacific. The Rest of the World includes South America and the Middle East and Africa. For market estimates, data has been provided for 2021 and 2022 as the historic years, 2023 as the base year, and forecast for 2029.

Report Includes:

- 43 data tables and 59 additional tables
- An overview of the global markets and emerging technologies for single-cell genomics and proteomics
- Analyses of the global market trends, with data from 2021-2023, estimates for 2024, and projections of compound annual

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growth rates (CAGRs) through 2029

- Evaluation of and forecast for the overall market for single-cell genomics and proteomics, and quantification of the market potential by analysis type, application, end user and region
- Description of cell isolation technologies, including flow cytometry, laser capture microscopy and micromanipulation, and sample preparation technologies, including microfluidics and whole genome amplification/pre-amplification
- Coverage of NGS, qPCR/PCR, microarrays, mass spectrometry and microfluidics
- Discussion of the major market dynamics and shifts, and the regulations, industry challenges, and macroeconomic factors that will affect the single-cell genomics and proteomics market over the coming years
- Review of the patent filings and research publications for innovations in single-cell genomics and proteomics technology
- A discussion of the industry's ESG challenges and practices
- Identification of the companies that are best positioned to meet this demand because of their proprietary technologies, strategic alliances, or other advantages
- Insight into industry structure, competitive landscape, clinical trials and ongoing research activity
- Profiles of the major players, including 10x Genomics, Thermo Fisher Scientific Inc., Illumina Inc., BD and Merck KGaA

Executive Summary

Summary:

The global market for single-cell genomics and proteomics is expected to grow from \$4.0 billion in 2024 to reach \$9.1 billion by the end of 2029, at a compound annual growth rate (CAGR) of 17.6% from 2024 through 2029.

The demand for single-cell genomics and proteomics is rapidly increasing across global research and healthcare markets, driven by advances in single-cell analysis technologies and their ability to provide unprecedented insights into cellular heterogeneity. With the rising focus on personalized medicine, oncology and immune profiling, single-cell technologies are becoming indispensable tools for identifying biomarkers, understanding disease mechanisms and developing targeted therapies.

The growing prevalence of chronic and complex diseases, such as cancer, neurodegenerative disorders and autoimmune diseases, has highlighted the importance of single-cell approaches in precision medicine. These technologies enable researchers to study individual cells at genomic and proteomic levels, uncovering critical information that bulk analysis often misses. The significant investments in single-cell research, coupled with ongoing technological innovations in sequencing, mass spectrometry and data analysis platforms, are fueling the adoption of single-cell genomics and proteomics. Increasing collaborations between academic institutions, biotech companies, and healthcare providers are further accelerating the development and commercialization of single-cell technologies. Comprehensive market sizing and forecasting will enable stakeholders to identify high-growth segments and regions, understand competitive dynamics and make informed decisions for strategic planning during the forecast period.

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10X GENOMICS
AGILENT TECHNOLOGIES INC.

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