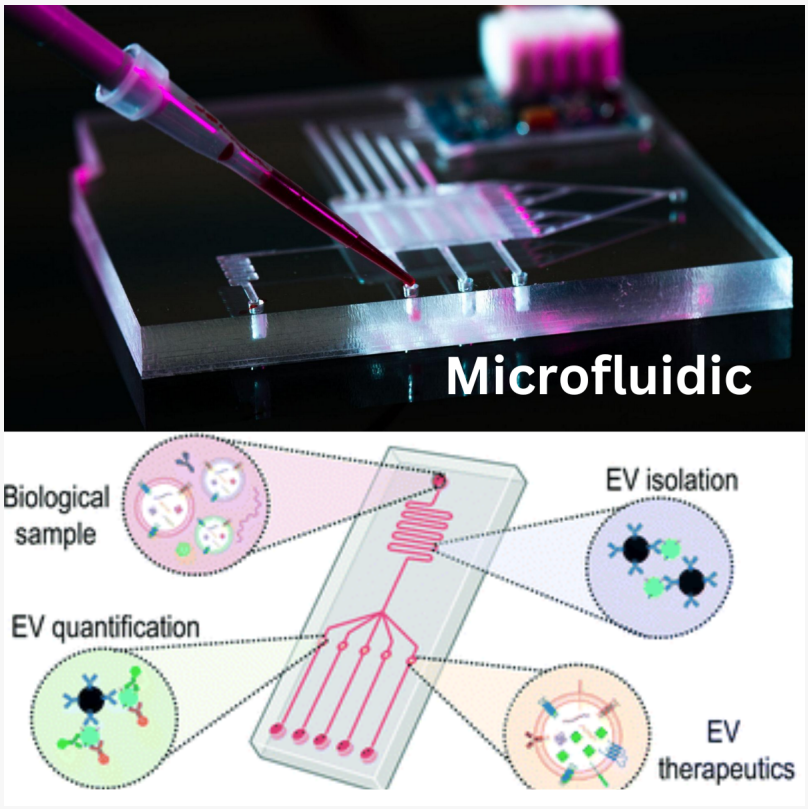
# Future Growth: Microfluidic Market Sees Promising Growth in 2024 -2031 | Thermo Fisher Scientific Inc., Qiagen NV

*Microfluidics is the technology that deals with the flow of liquids through microscopic channels such as chips, nozzles, and pumps.*



Microfluidic Market

BURLINGAME, CALIFORNIA , UNITED STATES, May 22, 2024 /EINPresswire.com/ -- Market Overview:

Microfluidics deals with behavior, precise control and manipulation of fluids that are geometrically constrained to a small, typically sub-millimeter, scale at which capillary penetration governs mass transport. Microfluidic tools are used for various applications such as DNA sequencing, cell isolation and biochemical analysis.

Market Dynamics:

The microfluidic market is witnessing high growth owing to increased adoption of point-of-care testing devices. Point-of-care testing involves conducting lab tests near the patient with quick results. Microfluidic technology helps design compact point-of-care devices with capability to perform complex assays outside conventional labs. Furthermore, rising demand for microfluidic chips in drug discovery process is also fueling market growth. Microfluidic chips are used for high throughput screening of new drug candidates, toxicity analysis and studying drug metabolism process at a microscale level. They enable analysis of a large number of experiments simultaneously, reducing development costs and time for pharmaceutical companies.

List of TOP Players in Market Report are: –

 Agilent Technologies
 PerkinElmer Inc.
 Thermo Fisher Scientific Inc.
 Qiagen NV
 Bio-Rad Laboratories Inc.
 Fluidigm Corporation
 Abbott Laboratories
 F. Hoffmann-La Roche Ltd.

Note: Major Players are sorted in no particular order.

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Driver: Growing demand for microfluidic technology in Point-of-Care (POC) Diagnostics

Microfluidic technology has found increasing application in developing handheld, compact diagnostics devices that can provide quick test results at the point-of-care. Miniaturizing diagnostic platforms using microfluidics allows for portable, low-cost testing that does not require samples or reagents to be sent to centralized laboratories. This has led to growing demand for microfluidic technology from the healthcare sector for rapid testing of various infectious diseases, cardiac markers, drugs of abuse and other biomarkers directly at clinics, emergency rooms, homes and ambulatory settings. Microfluidic-based POC devices offer results faster than conventional laboratory tests and help avoid delays in treatment initiation. The ability of microfluidics to integrate complex analytical processes on low-volume samples is fueling the development and commercialization of innovative POC testing solutions.

Microfluidic systems provide significant advantages over conventional techniques for various applications in drug discovery and development. Their ability to precisely control fluids on a micro-scale allows reproducible operations with miniscule volumes of reagents and samples. This helps lower material consumption and testing costs while improving experimental throughput. Microfluidic technologies are widely used today for high-throughput screening of chemicals, biomolecules and cells to accelerate lead discovery. They are also finding increasing adoption in personalized medicine for running assays on patient-derived clinical samples. Other areas where microfluidics is enhancing drug R&D capabilities include organs-on-chips for preclinical testing, continuous manufacturing of pharmaceuticals and synthesis of nanoparticles for targeted drug delivery. As microfluidics demonstrates higher effectiveness in shaving years and costs off development timelines, its importance in the drug industry is slated to rise significantly.

Restrain: High setup and instrumentation costs

The initial setup and installation of microfluidic systems requires highly specialized equipment and instruments like lasers, lithography systems, biomolecular coating systems, computational software etc. These instruments come with hefty price tags that drive up capital costs exponentially. Similarly, maintenance and replacement of components also adds to recurring expenditure. The low-volume production nature of most microfluidic devices means initial costs are not significantly offset until large commercial volumes are achieved. This high barrier to entry restricts the affordability and widespread adoption of microfluidic technology, especially among small laboratories and startups. Also, the need for multidisciplinary expertise in fabrication and characterization limits outsourcing opportunities. While costs are coming down with technological advancements, the high capital intensity remains a key restrain for more vibrant growth of the microfluidics market.



Opportunity: Advancement of Organ-on-Chip technology

Organ-on-chip technology, which replicates the physiological functions and mechanical properties of human organs on a microfluidic chip, holds immense potential opportunities. It provides a far more realistic and predictive alternative to traditional cell-based and animal models. The development of sophisticated multi-organ chips mimicking inter-organ interactions further improves the ability to replicate human disease pathologies and responses to drugs in vitro. As organ-on-chips prove their worth in reducing late-stage drug failure and expediting drug approvals, substantial funding is flowing towards advancing the technology. Several pharma giants have shown keen interest to partner with startups to leverage organ chips for predictive toxicology and pharmacology. With ongoing efforts towards commercial-scale manufacturing and regulatory approvals, organ-on-chips are forecast to transform drug discovery and spur major growth in the microfluidics market over the next decade.

Trend: Advancements in fabrication technologies

Enabling faster and cheaper microfabrication is integral to driving down the costs of microfluidic devices and making complex Lab-on-Chip systems more accessible. Major advances are occurring in high-resolution 3D printing, multilevel soft lithography, paper-based microfluidics, hybrid materials and maskless lithography that lower technical barriers. The emergence of user-friendly software for fluidic circuit design is speeding up prototyping cycles. Cadenced tools with machine learning integration are improving designs through simulation-based parameter optimization. New materials like hydrogels, polymers and elastomers offer innovative possibilities beyond glass and silicon.

Furthermore, the years considered for the study are as follows:

Historical data - 2016-2022

The base year for estimation - is 2022
Estimated Year - 2024
Forecast period** - 2024 to 2031

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This Microfluidic Market Research/Analysis Report Contains Answers to your following Questions:

What are the current global trends in the Microfluidic market, and will the market experience an increase or decrease in demand in the upcoming years?

 What is the expected demand for various product types within the Microfluidic market, and what are the emerging Market applications and trends?

 What are the projections for the global Microfluidic Market in terms of capacity, production, production value, cost, profit, market share, supply, consumption, import, and export?

 How will strategic developments shape the Market trajectory in the medium to long term?

 What factors contribute to the final price of Microfluidic , and what are the raw materials used in its manufacturing?

 What is the market's growth potential, particularly with the increasing adoption of Microfluidic in mining?

 What is the current and 2022 value of the global market, and who are the leading companies in this market?

 What recent Market trends can be leveraged to create additional revenue streams?

 What entry strategies, economic impact mitigation measures, and marketing channels should be considered for the Microfluidic Market?

Summarized Extracts from TOC of  Market Study

Chapter 1 Microfluidic Introduction and Market Overview

1.1 Objectives of the Study

1.2 Overview of Microfluidic

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provides syndicated research reports, customized research reports, and consulting services. We are known for our actionable insights and authentic reports in various domains including aerospace and defense, agriculture, food and beverages, automotive, chemicals and materials, and virtually all domains and an exhaustive list of sub-domains under the sun. We create value for clients through our highly reliable and accurate reports. We are also committed in playing a leading role in offering insights in various sectors post-COVID-19 and continue to deliver measurable, sustainable results for our clients.

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