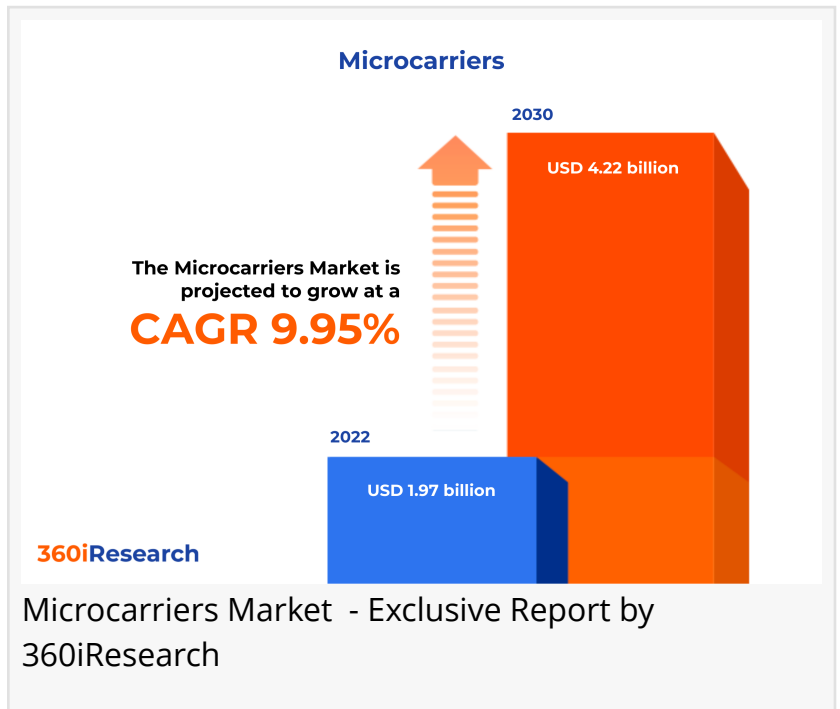


# Microcarriers Market worth \$4.22 billion by 2030, growing at a CAGR of 9.95% - Exclusive Report by 360iResearch

*The Global Microcarriers Market to grow from USD 1.97 billion in 2022 to USD 4.22 billion by 2030, at a CAGR of 9.95%.*

PUNE, MAHARASHTRA, INDIA ,  
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-- The "[Microcarriers Market](#) by Product (Consumables, Equipment), Application (Biologics Manufacturing, Cell Therapy, Vaccine Manufacturing), End User - Global Forecast 2023-2030" report has been added to 360iResearch.com's offering.

The Global Microcarriers Market to grow from USD 1.97 billion in 2022 to USD 4.22 billion by 2030, at a CAGR of 9.95%.



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Microcarriers are small spherical beads made from materials such as dextran, polystyrene, gelatin, or glass that provide a surface for anchorage-dependent cells to adhere and grow. These particles range in size from 100 to 300 micrometers and can be used in bioreactors or other cell culture systems to enhance the scalability and efficiency of cell production processes. The primary purpose of microcarriers is to facilitate the large-scale expansion of anchorage-dependent cells that require a substrate for attachment and growth. In biotechnology, microcarriers are essential for producing therapeutic proteins, vaccines, and cell-based therapies, such as stem cells or immune cells. Microcarriers provide a high surface-to-volume ratio, allowing more efficient use of culture medium and space in bioreactors than traditional two-dimensional (2D) monolayer cultures on flat surfaces. There has been an increasing need for

more efficient systems for the cultivation of stem cells, given their potential in regenerative medicine, tissue engineering, and drug discovery. Microcarriers have emerged as a key component in the large-scale expansion of pluripotent stem cells (PSCs), which can differentiate into numerous cell types and provide the scalability and robustness required for commercial manufacturing. Moreover, immunotherapy has grown tremendously, with adoptive cell transfer treatments such as chimeric antigen receptor (CAR) T-cell therapy demonstrating significant clinical results in cancer treatment. One of the challenges associated with these therapies is the inability to provide sufficient quantities of high-quality immune cells for therapeutic application. However, as new cell-based therapies continue to emerge and advance toward commercialization, microcarrier technology is expected to remain a critical component driving their manufacturing success.

**Application: Extensive usage of microcarriers in biomedical applications, with potential applications in tissue engineering and regenerative medicine**

Microcarriers play a crucial role in various applications across biotechnology, pharmaceuticals, and regenerative medicine sectors. Their ability to support large-scale cell cultivation, improve vaccine production efficiency, enable tissue engineering approaches, facilitate drug discovery efforts, and contribute to gene therapy advancements highlights their significance in modern life science research and development. In biologics manufacturing, microcarriers facilitate the growth of adherent cells for producing large molecules, such as proteins and monoclonal antibodies. Microcarriers support scalable production of therapeutic cells, including mesenchymal stem cells (MSCs) and chimeric antigen receptor T-cells (CAR-T). Microcarriers have shown potential in tissue engineering applications due to their ability to support a 3D environment resembling native tissues' architecture. They offer an excellent platform for generating functional tissues by enabling the spatial organization of multiple cell types, promoting cell-cell communication, and supporting extracellular matrix deposition. In regenerative medicine, microcarrier-based systems can be employed in stem cell expansion to produce sufficient cells required for therapies targeting organ repair or replacement. For vaccine manufacturing, microcarriers enable the expansion of adherent cells responsible for producing viral vectors or antigens necessary for vaccine formulation. Overall, each application demands tailored microcarrier solutions with unique properties to address diverse requirements. Manufacturers continuously innovate to improve the efficiency of these crucial life-saving technologies by catering to biologics manufacturing's focus on high-quality protein production; cell therapy's emphasis on regenerative medicine advancements; and vaccine manufacturing's response to global public health challenges.

**Product: Innovations in the microcarrier-based equipment for increasing scalability and production process flexibility**

In microcarrier technology, products are categorized into consumables and equipment. Consumables, which directly impact cell growth and maintenance, consist of microcarriers, media, sera, buffers/reagents, and disposables. On the other hand, equipment is crucial for efficient microcarrier-based cell culture systems operation which includes bioreactors, cell imaging systems/cell counters, and centrifugation/filtration devices. Researchers prioritize high-

quality products ensuring optimal cell growth while maintaining sterility. Consequently, serum-free or chemically-defined media and disposable bioreactors gain preference due to reduced contamination risks and scalability ease.

**End User:** Utilization of microcarriers in healthcare institutions in preference to their performance accuracy and scalability

Contract research organizations (CROs) and research institutes involved in cell culture and vaccine production rely on innovative and efficient bioprocessing technologies to conduct research, drug discovery, and preclinical trials. CROs particularly benefit from microcarriers as they support the scale-up of cell cultures, which is essential for high-throughput screening and optimizing therapeutic production. Research institutes use microcarriers to facilitate the growth of anchorage-dependent cells, which is important for studying cell behavior and developing tissue engineering applications. On the other hand, pharmaceutical and biotechnology companies leverage microcarrier technology primarily to produce vaccines, therapeutic proteins, and regenerative medicines. The pharmaceutical industry, aiming for efficiency and cost-effectiveness, demands microcarriers compatible with large-scale production facilities and can integrate seamlessly with automated systems.

**Regional Insights:**

Microcarriers are in high demand, as evidenced by their increasing market growth in the Americas, Europe, the Asia-Pacific, and the Middle East and Africa regions. The Americas region, led by the United States, boasts advanced biotechnology infrastructure and strong government support for research activities. The European Union prioritizes funding for healthcare-related research initiatives, resulting in increased demand and advancements in cell therapy technologies that utilize microcarriers. In the Middle East and Africa, improved healthcare infrastructure and government investments have sparked interest in the application of microcarriers. The Asia-Pacific region, particularly China and Japan, is experiencing growth driven by government initiatives, including patent filings for novel materials and surface modifications for high-quality microcarriers. Additionally, India's rapidly expanding pharmaceutical sector is stimulating the need for more advanced cell culture technologies that utilize microcarriers. As the global demand for cell-based therapies continues to rise, there is an increasing need for efficient production systems such as microcarriers. These create significant opportunities for innovation in the development and implementation of efficient microcarrier-based systems and new collaboration among stakeholders in various regions.

**FPNV Positioning Matrix:**

The FPNV Positioning Matrix is essential for assessing the Microcarriers Market. It provides a comprehensive evaluation of vendors by examining key metrics within Business Strategy and Product Satisfaction, allowing users to make informed decisions based on their specific needs. This advanced analysis then organizes these vendors into four distinct quadrants, which represent varying levels of success: Forefront (F), Pathfinder (P), Niche (N), or Vital(V).

## Market Share Analysis:

The Market Share Analysis offers an insightful look at the current state of vendors in the Microcarriers Market. By comparing vendor contributions to overall revenue, customer base, and other key metrics, we can give companies a greater understanding of their performance and what they are up against when competing for market share. The analysis also sheds light on just how competitive any given sector is about accumulation, fragmentation dominance, and amalgamation traits over the base year period studied.

## Key Company Profiles:

The report delves into recent significant developments in the Microcarriers Market, highlighting leading vendors and their innovative profiles. These include Aber Instruments Ltd., Bangs Laboratories, Inc., Bio-Rad Laboratories, Inc., Carroucell, ChemoMetec A/S, Cole-Parmer Instrument Company, Corning Inc., Cytiva, denovoMATRIX GmbH, Entegris, Inc., Eppendorf AG, Esco Vaccixcell, FUJIFILM Holdings Corporation, Getinge AB, Irvine Scientific, Kuraray Co., Ltd., Lonza Group AG, Matrix F.T., Merck KGaA, Modern Meadow Inc., nanoComposix, Inc., Pall Corporation, Polysciences Inc., PromoCell GmbH, Repligen Corporation, RoosterBio, Inc., Sartorius AG, Sunresin New Materials Co.Ltd., Teijin Limited, and Thermo Fisher Scientific Inc..

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## Market Segmentation & Coverage:

This research report categorizes the Microcarriers Market in order to forecast the revenues and analyze trends in each of following sub-markets:

Based on Product, market is studied across Consumables and Equipment. The Consumables is further studied across Media and Reagents. The Equipment is further studied across Accessories, Bioreactors, Cell Counters, Culture Vessels, and Filtration Systems. The Consumables is projected to witness significant market share during forecast period.

Based on Application, market is studied across Biologics Manufacturing, Cell Therapy, and Vaccine Manufacturing. The Cell Therapy commanded largest market share of 35.23% in 2022, followed by Biologics Manufacturing.

Based on End User, market is studied across CRO & Research Institutes and Pharmaceutical & Biotechnology Companies. The Pharmaceutical & Biotechnology Companies is projected to witness significant market share during forecast period.

Based on Region, market is studied across Americas, Asia-Pacific, and Europe, Middle East &

Africa. The Americas is further studied across Argentina, Brazil, Canada, Mexico, and United States. The United States is further studied across California, Florida, Illinois, New York, Ohio, Pennsylvania, and Texas. The Asia-Pacific is further studied across Australia, China, India, Indonesia, Japan, Malaysia, Philippines, Singapore, South Korea, Taiwan, Thailand, and Vietnam. The Europe, Middle East & Africa is further studied across Denmark, Egypt, Finland, France, Germany, Israel, Italy, Netherlands, Nigeria, Norway, Poland, Qatar, Russia, Saudi Arabia, South Africa, Spain, Sweden, Switzerland, Turkey, United Arab Emirates, and United Kingdom. The Europe, Middle East & Africa commanded largest market share of 39.84% in 2022, followed by Americas.

#### Key Topics Covered:

1. Preface
2. Research Methodology
3. Executive Summary
4. Market Overview
5. Market Insights
6. Microcarriers Market, by Product
7. Microcarriers Market, by Application
8. Microcarriers Market, by End User
9. Americas Microcarriers Market
10. Asia-Pacific Microcarriers Market
11. Europe, Middle East & Africa Microcarriers Market
12. Competitive Landscape
13. Competitive Portfolio
14. Appendix

The report provides insights on the following pointers:

1. Market Penetration: Provides comprehensive information on the market offered by the key players
2. Market Development: Provides in-depth information about lucrative emerging markets and analyzes penetration across mature segments of the markets
3. Market Diversification: Provides detailed information about new product launches, untapped geographies, recent developments, and investments
4. Competitive Assessment & Intelligence: Provides an exhaustive assessment of market shares, strategies, products, certification, regulatory approvals, patent landscape, and manufacturing capabilities of the leading players
5. Product Development & Innovation: Provides intelligent insights on future technologies, R&D activities, and breakthrough product developments

The report answers questions such as:

1. What is the market size and forecast of the Microcarriers Market?
2. Which are the products/segments/applications/areas to invest in over the forecast period in

the Microcarriers Market?

3. What is the competitive strategic window for opportunities in the Microcarriers Market?
4. What are the technology trends and regulatory frameworks in the Microcarriers Market?
5. What is the market share of the leading vendors in the Microcarriers Market?
6. What modes and strategic moves are considered suitable for entering the Microcarriers Market?

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