

Microplate Systems Market Size Projected to Reach \$1293.18 Billion by 2030 | Biochrom, Corning, Danaher Corporation

Microplate Systems Market is projected to reach \$1293.18 Billion by 2030, growing at a CAGR of 4.20% from 2023 to 2030

UNITED STATES, January 31, 2024 /EINPresswire.com/ -- <u>Microplate</u> <u>systems</u> are devices and equipment that are used for various laboratory applications that involve microplates. Microplates are flat plates with multiple wells that can hold small volumes of samples or reagents. Microplate systems include microplate readers, washers, dispensers, handlers, and software solutions that facilitate the analysis, processing, and automation of microplates. Microplate



systems are widely used in research, diagnostics, and drug development, as they offer highthroughput screening, sample analysis, and automation, making them indispensable tools in various scientific and medical fields.

According to Vantage Market Research, The Global <u>Microplate Systems Market</u> is expected to grow at a compound annual growth rate (CAGR) of 4.20% from 2023 to 2030, The global microplate systems market size was valued at USD 930.51 Billion in 2022 and is projected to reach USD 1293.18 Billion by 2030. The driving factors for the market growth include the increasing prevalence of chronic diseases, the growing demand for biologics and biosimilars, the rising adoption of self-injection devices, and the technological advancements in microplate systems. Moreover, the COVID-19 pandemic has created significant opportunities for the market, as microplate systems are being used for the development and testing of vaccines and therapeutics for the virus.

The type of device refers to the different types of microplate systems, such as microplate readers, washers, dispensers, handlers, and software solutions. Microplate readers are devices that measure the optical properties of the samples or reagents in the microplates, such as absorbance, fluorescence, luminescence, or scintillation. Microplate readers can be classified into single-mode or multi-mode, depending on the number of detection modes they can perform. Microplate washers are devices that remove the excess or unwanted samples or reagents from the microplates, to prevent cross-contamination and interference. Microplate dispensers are devices that add the samples or reagents to the microplates, to ensure the accuracy and precision of the volume and distribution. Microplate handlers are devices that automate the movement and storage of the microplates, to increase the efficiency and throughput of the workflow. Microplate software solutions are programs that control, monitor, and analyze the microplate systems, to ensure the quality and reliability of the data and results.

The type of formulation refers to the different types of samples or reagents that are used in the microplates, such as conventional formulations and novel formulations. Conventional formulations are the standard samples or reagents that are used for microplate systems, such as solutions, suspensions, emulsions, and lyophilized powders. Novel formulations are the advanced samples or reagents that are developed to improve the stability, solubility, bioavailability, and efficacy of the samples or reagents, such as nanosuspensions, liposomes, micelles, microspheres, and implants.

The therapeutic application refers to the different types of diseases and conditions that are treated or diagnosed using microplate systems, such as diabetes, cancer, autoimmune disorders, pain, and infections. Diabetes is a chronic metabolic disorder that is characterized by high blood glucose levels, which requires the monitoring and management of blood glucose levels using microplate systems. Cancer is a group of diseases that involve the abnormal growth of cells, which requires the screening and testing of potential drugs and biomarkers using microplate systems. Autoimmune disorders are diseases that involve the malfunctioning of the immune system, which requires the detection and measurement of immune responses and inflammation using microplate systems. Pain is a sensation of discomfort that is caused by various factors, such as injury, inflammation, or disease, which requires the evaluation and assessment of analgesic and anesthetic drugs using microplate systems. Infections are diseases that are caused by microorganisms, such as bacteria, viruses, fungi, and parasites, which require the identification and quantification of pathogens and antibodies using microplate systems.

The geography refers to the regional distribution of the microplate systems market, such as North America, Europe, Asia-Pacific, Middle East and Africa, and South America. North America is the largest market, followed by Europe and Asia-Pacific, due to the high prevalence of chronic diseases, the high healthcare expenditure, the strict regulatory framework, and the growing importance and awareness of microplate systems in these regions.

Biochrom (UK)
Corning (US)
Lonza (Switzerland)
Brucker Corporation (US)
Dynex Technologies (US)
Bio-One International GmbH (Austria)
Accuris Instruments (US)
CTK Biotech Inc. (US)
LTEK (South Korea)
JASCO (Japan)
Rayto (China)
Micro Lab Instruments (India)
Biohit Oyj (Finland)
Mindray (China)
Hudson Robotics (US)

The microplate systems market is increasingly adopting digital and smart solutions, such as software, sensors, RFID tags, GPS trackers, and mobile applications, to improve the efficiency, accuracy, transparency, and compliance of the microplate systems process. These solutions enable the real-time monitoring, tracking, and reporting of the microplate systems devices and formulations, as well as the optimization of the inventory management, order processing, transportation and logistics, and warehousing and storage operations. They also facilitate the data analysis, auditing, and verification of the microplate systems performance and outcomes, as well as the identification and resolution of any issues or discrepancies. Some of the examples of digital and smart solutions for microplate systems are BioTek's Gen5, Thermo Fisher Scientific's Skanlt, and PerkinElmer's Signals.

The microplate systems market is increasingly focusing on patient-centric and personalized solutions, as different patients have different needs and preferences for microplate systems, depending on their condition, lifestyle, and behavior. Patient-centric and personalized solutions involve the development and implementation of customized and flexible microplate systems devices and formulations, that meet the specific requirements and expectations of each patient. These solutions aim to enhance the convenience, comfort, safety, and efficacy of microplate systems, as well as to improve the patient adherence and satisfaction. Some of the examples of

patient-centric and personalized solutions for microplate systems are Roche's Accu-Chek, Abbott's FreeStyle, and Dexcom's G6.

The microplate systems market is increasingly demanding for biologics and biosimilars, as they offer various advantages over conventional drugs, such as higher specificity, potency, and efficacy, as well as lower toxicity and side effects. Biologics are drugs that are derived from biological sources, such as cells, tissues, or organs, and include vaccines, monoclonal antibodies, recombinant proteins, and gene therapies. Biosimilars are drugs that are similar but not identical to the original biologics, and offer comparable quality, safety, and efficacy, as well as lower cost. Biologics and biosimilars are widely used for the treatment of various diseases and conditions, such as cancer, autoimmune disorders, diabetes, and infections, and require microplate systems for their development and testing. Some of the examples of biologics and biosimilars for microplate systems are Roche's Herceptin, AbbVie's Humira, and Biocon's Ogivri.

□ The global microplate systems market size was valued at USD 930.51 Billion in 2022 and is projected to reach USD 1293.18 Billion by 2030, growing at a CAGR of 4.20%.

 The multi-mode microplate reader segment accounted for the largest share of the market in 2022, owing to the high demand and supply of multi-mode microplate readers for various applications, such as drug discovery, clinical diagnostics, and efficacy studies.

□ The drug discovery segment accounted for the largest share of the market in 2022, owing to the high consumption and expenditure of microplate systems for drug discovery, especially for biologics and biosimilars.

□ North America dominated the market in 2022, followed by Europe and Asia-Pacific, due to the high prevalence of chronic diseases, the high healthcare expenditure, the strict regulatory framework, and the growing importance and awareness of microplate systems in these regions.

The key players operating in the market include Becton, Dickinson and Company, Thermo Fisher Scientific Inc., PerkinElmer Inc., BioTek Instruments, Inc., Tecan Group Ltd., Bio-Rad Laboratories, Inc., Corning Incorporated, Agilent Technologies, Inc., Danaher Corporation, and Lonza Group Ltd.

□ The market is expected to witness various opportunities and challenges in the future, such as the increasing adoption of digital and smart solutions, the increasing focus on patient-centric and personalized solutions, the increasing demand for biologics and biosimilars, the increasing emergence of infectious diseases, the increasing environmental and social concerns, and the increasing regulatory and competitive pressures.

Many healthcare workers, researchers, and technicians are not aware of the benefits and risks of microplate systems, and do not receive adequate training in proper microplate systems techniques and practices. This can lead to improper administration, dosage errors, needlestick injuries, and infections.

Many microplate systems devices are not standardized, user-friendly, or compatible with different formulations, which can create confusion, inconvenience, and wastage for the users. This can also affect the stability, solubility, bioavailability, and efficacy of the samples or reagents.

The development and manufacturing of microplate systems devices and formulations are often costly and complex, due to the need for specialized equipment, materials, and processes, as well as the compliance with strict regulatory and quality standards. This can limit the availability, accessibility, and affordability of microplate systems solutions, especially in low- and middle-income countries.

The emergence of novel and complex formulations, such as biologics, biosimilars, and nanomedicines, for microplate systems, pose new challenges for the design, development, and delivery of microplate systems devices and systems. These formulations often require specific storage, transportation, and administration conditions, such as temperature, pressure, and pH, to maintain their stability, solubility, bioavailability, and efficacy.

The environmental and social concerns of microplate systems include the generation and disposal of medical waste, such as needles, syringes, and vials, which can cause environmental pollution and health hazards, as well as the ethical and cultural issues of microplate systems, such as the fear of needles, the stigma of injection, and the preference of oral medication.

The microplate systems market can explore new applications and indications of microplate systems, such as gene therapy, regenerative medicine, and personalized medicine, which can offer novel and effective solutions for various unmet medical needs and rare diseases. These applications and indications can also increase the demand and value of microplate systems, as well as the differentiation and competitiveness of the market players.

The microplate systems market can develop novel and improved microplate systems, such as

microneedles, needle-free injectors, smart injectors, and implantable pumps, which can overcome the limitations and challenges of conventional microplate systems, such as pain, discomfort, infection, and waste. These systems can also enhance the performance and functionality of microplate systems, such as controlled release, targeted delivery, biosensing, and feedback.

The microplate systems market can leverage the potential of digital and smart solutions, such as software, sensors, RFID tags, GPS trackers, and mobile applications, to improve the efficiency, accuracy, transparency, and compliance of the microplate systems process. These solutions can also enable the collection and analysis of valuable data and insights from the microplate systems devices and formulations, which can facilitate the optimization, personalization, and innovation of microplate systems.

The microplate systems market can collaborate and partner with other stakeholders, such as pharmaceutical and <u>biotechnology</u> companies, device manufacturers, service providers, regulators, payers, and patients, to create synergies and opportunities for the development and delivery of microplate systems. These collaborations and partnerships can also foster the exchange of knowledge, expertise, and resources, as well as the alignment of goals, expectations, and standards, among the stakeholders.

The microplate systems market can explore and penetrate emerging markets, such as China, India, Brazil, and South Africa, which have high growth potential and unmet needs for microplate systems, due to the increasing burden of chronic diseases, the growing population and aging, the rising healthcare expenditure and awareness, and the improving infrastructure and regulations. These markets can also offer opportunities for the market players to expand their customer base, market share, and revenue.

- Q. What are the current market size and growth projections for microplate systems?
- Q. Which applications drive the market demand, and how are they evolving?
- Q. Who are the key players in the market, and what are their strategies?
- Q. What are the emerging trends and technologies shaping the market future?
- Q. What are the regional variations in market growth and dynamics?
- Q. What are the challenges and opportunities impacting the market?
- Q. What are the regulatory considerations for microplate systems?
- Q. How will advancements in automation and AI influence the market?

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North America currently dominates the microplate systems market, accounting for over 40% of the global share. This is attributed to factors like the region's strong pharmaceutical and biotechnology industries, high research and development spending, and well-established infrastructure. However, other regions like Asia Pacific and Europe are catching up, driven by their own economic growth and increasing healthcare needs.

The microplate systems market is a dynamic and ever-evolving landscape. By understanding the market dynamics, top trends, and regional variations, stakeholders can position themselves to capitalize on the immense opportunities this technology presents. As automation and miniaturization continue to revolutionize life science research, the tiny wells of the microplate system hold the promise of a future filled with greater efficiency, accuracy, and ultimately, improved healthcare outcomes.

Health Telemetry Systems Market: <u>https://www.vantagemarketresearch.com/industry-</u> report/health-telemetry-systems-market-2290 Healthcare Learning Management Systems Market: https://www.vantagemarketresearch.com/industry-report/healthcare-learning-managementsystems-market-2191 Orthopedic Navigation Systems Market: <u>https://www.vantagemarketresearch.com/industry-</u> report/orthopedic-navigation-systems-market-2246 Home Healthcare Market: <u>https://www.vantagemarketresearch.com/industry-report/home-</u> healthcare-market-2388 MRI Market: <u>https://www.linkedin.com/pulse/mri-magnetic-resonance-imaging-market-size-</u> share-trends-hancock/ Generic Drugs Market: <u>https://www.linkedin.com/pulse/generic-drugs-market-size-share-</u> trends-analysis-report-ashley-hancock/ Medical Hyperspectral Imaging Market: <u>https://www.linkedin.com/pulse/medical-</u> hyperspectral-imaging-market-size-share-trends-ashley-hancock/ □ Video Laryngoscope Market: https://www.linkedin.com/pulse/video-laryngoscope-market-sizeshare-trends-analysis-report-hancock/

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