

RNA Therapeutics Market Assessment, By Type [RNA Interference Therapeutics, mRNA Therapeutics, Antisense Oligonucleotide Therapeutics, Others], By Product [Vaccines, Drugs], By Indication [Rare Genetic Diseases/Hereditary Diseases, Infectious Diseases, Others], By End-user [Hospitals, Academic Research Centers, Contract Research Organizations, Others], By Region, Opportunities and Forecast, 2017-2031F

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Abstracts

Global RNA therapeutics market size was valued at USD 23,067.85 million in 2023, expected to reach USD 54,464.95 million in 2031, with a CAGR of 11.25% for the forecast period between 2024 and 2031F. Factors impacting the global RNA therapeutics market include progress in RNA technology, augmented research funding, heightened incidence of chronic diseases, demand for personalized medicine, the effectiveness of RNA-based drugs in treating previously incurable conditions, and the substantial influence of regulatory support and collaborations among pharmaceutical firms contributing to market expansion.

Multiple pivotal factors significantly affect global RNA therapeutics market, each wielding a crucial role in its expansion and progression. Primarily, ongoing advancements in RNA technology serve as the cornerstone for market growth. Continuous innovations in messenger RNA (mRNA), small interfering RNA (siRNA), antisense oligonucleotides, and related techniques consistently bolster the precision and effectiveness of therapeutic approaches. These strides address historical challenges concerning drug stability, target accuracy, and optimize delivery methods.

Augmented research funding represents another fundamental catalyst. The surge in financial support drives progressive RNA-centered studies, hastening breakthroughs and translating discoveries into viable clinical applications in global RNA therapeutics market. The increased funding allows deeper exploration, fostering innovation, and expediting the conversion of RNA discoveries into practical therapies.

Additionally, the escalation in chronic diseases intensifies the need for effective treatments, aligning seamlessly with the adaptability of RNA-based interventions significantly driving global RNA therapeutics market. RNA therapeutics offers promising potential in addressing previously insurmountable conditions, providing hope in scenarios where traditional medications fall short. The burgeoning demand for personalized medicine further fuels market expansion.

RNA-based drugs present tailored solutions, leveraging individual genetic profiles to craft customized treatments that more precisely meet patients' distinct needs. Moreover, the significant influence of regulatory backing and collaborations among pharmaceutical firms remains pivotal. Favorable regulatory environments, coupled with strategic partnerships, create an environment conducive to research, development, and commercialization, ultimately propelling the growth of global RNA therapeutics market.

Progress in RNA Technology Increase the Market Size

Advancements in RNA technology is the primary catalyst driving the global RNA therapeutics market. Technological strides, encompass messenger RNA (mRNA), small interfering RNA (siRNA), antisense oligonucleotides, and other RNA-based methods, fuel the creation of inventive therapeutic remedies. They improve drug stability, target precision, and delivery systems, effectively tackling persistent challenges in precision medicine. Moreover, refined manufacturing processes and increased scalability fortify the practicality of RNA-based therapies, rendering them more attainable for large-scale manufacturing and commercial viability. The precision in gene expression manipulation via RNA interventions unlocks new avenues for addressing previously untreatable diseases, instilling hope in conditions lacking viable treatment options. The continuous evolution of RNA technology amplifies therapeutic potential and garners substantial investments, collaborations, and research endeavors, driving forward the growth and expansion of global RNA therapeutics market.

Augmented Research Funding to Propel the Market Growth

Increased research funding plays a crucial role in propelling the global RNA

therapeutics market. The boost in financial support infuses vital resources into pioneering RNA-centered studies, hastening breakthroughs and pushing discoveries towards practical clinical applications. It cultivates an environment ideal for experimenting, exploring, and validating various RNA-based therapeutic methods. Moreover, heightened funding draws top-tier talent, sparks collaborative initiatives, and streamlines the transition of promising RNA technologies from lab settings to clinical trials. Consequently, it amplifies market growth potential and fosters the prospect of groundbreaking medical interventions.

For example, Flanders Innovation & Entrepreneurship (VLAIO) granted Flamingo Therapeutics a research grant of USD 1.9 million (EUR 1.7 million) in June 2023. The grant amounts to 60% of project's total budget of USD 3.2 million (EUR 2.9 million). The award money will be used towards expanding Flamingo Therapeutics' RNA-targeting oncology portfolio. It includes preclinical work on the company's long non-coding RNA (LncRNA) program targeting MALAT-1 and translational research for its lead clinical program, Danvatirsen, which is now in phase II trials for head and neck squamous cell carcinoma.

Government Initiatives

Governments worldwide are leading various initiatives that substantially elevate the global RNA therapeutics market. These initiatives encompass a range of strategies, including allocating research grants, establishing supportive regulatory frameworks, and fostering collaborations between public and private entities. Additionally, incentives such as financial rewards, tax credits, and streamlined approval procedures reinforce progress in RNA-based advancements. Moreover, public health programs focus on precision medicine and address previously untreatable conditions aligned with RNA therapeutics, stimulating increased government funding. The concerted effort fosters an environment conducive to research, development, and commercialization, significantly propelling notable growth in global RNA therapeutics market. For instance, Canada First Research Excellence Fund (CFREF) at Concordia University in Montreal would receive USD 1.4 million in funding for 11 large-scale research activities, according to an announcement made by the Minister of Innovation, Science, and Industry in April 2023. The best programs in their fields are given CFREF funding following a highly competitive process. To begin with DNA to RNA, an Inclusive Canadian Approach to Genomic-based RNA treatments (D2R), a first-of-its-kind international research project focused on the creation and delivery of more inclusive genomic-based RNA treatments, McGill has been awarded a historic USD 165 million CFREF grant.

Treatment of Rare Genetic Disorders

RNA therapeutics significantly drives the expansion of global RNA therapeutics market by being instrumental in treating rare genetic disorders. These conditions, often resistant to conventional treatments, discover promise in RNA-based interventions capable of pinpointing precise genetic irregularities. As RNA therapies prove their efficacy in managing these once untreatable disorders, enthusiasm and investment escalate, fueling the market growth. Specific application highlights RNA therapeutics' potential in meeting unaddressed medical demands, propelling both research initiatives and market progress. For instance, in October 2023, Novo Nordisk (NOVOB.CO) announced that FDA in the United States had approved its treatment for a rare kidney-affecting genetic disorder. It is approved for use in patients of nine years of age and older, with a form of primary hyperoxaluria and generally intact kidney function to administer the once-monthly injection, which will be marketed under the brand name Rivfloza. RNA interference technology, or RNAi, is used in therapy to assist lower urinary oxalate levels by silencing or neutralizing genes that contribute to illness.

Extensive use of RNAi Therapeutics

The global RNA therapeutics market experiences significant demand, particularly in RNA interference (RNAi) therapies. The interest arises from RNAi's distinct ability to target specific genes, impeding disease progression. RNAi's precision in controlling gene expression renders it an appealing option for treating conditions such as cancers, genetic disorders, and viral infections. As ongoing research continues to affirm RNAi's therapeutic potential and its effectiveness in both preclinical and clinical settings as the demand intensifies. The growing enthusiasm originates from RNAi's potential to address unmet medical needs, fostering a robust market propelled by the quest for innovative and precise therapeutic resolutions.

For instance, the industry-leading RNAi therapeutics company Alnylam Pharmaceuticals, Inc. announced in July 2023 that it has entered into a strategic agreement with Roche to develop and commercialize zilebesiran, the company's investigational RNAi therapeutic currently in Phase 2 development, for the treatment of hypertension. Through the agreement, Alnylam's P5x25 approach can move closer to its ambitious development ambition of upending the global paradigm of hypertension therapy.

Future Market Scenario

The forthcoming prospects of global RNA therapeutics market project significant expansion. The upsurge is driven by key elements such as ongoing progress in RNA technology. The fast-growing class of medications known as 'RNA therapeutics' will enable personalized therapy, expedite the time it takes for solutions to reach the clinic, and end using the term 'undruggable.' Many more RNA medications are being developed, and the first ones have been approved.

Other elements such as augmented investment in research and development, escalating prevalence of chronic ailments, broader utilization of personalized medicine, and potential of RNA-based remedies for formerly untreatable conditions will play a major role. Moreover, partnerships between pharmaceutical firms and favorable regulatory structures add impetus to this expected growth. The market's expansion pivots on the growing need for inventive therapeutic options, signaling a promising and resilient future for RNA-based interventions in tackling unmet medical challenges.

Key Players Landscape and Outlook

Major biotech companies worldwide are joining forces to establish an impactful alliance in global RNA therapeutics market. The joint venture serves a dual purpose, advancing innovation and assuming regulatory roles. Together, these firms aim to combine their knowledge, resources, and research efforts to propel the development of innovative RNA-based therapies. Concurrently, their objective involves setting industry standards and guidelines to maintain quality and endorse the safety and effectiveness of RNA therapeutic solutions. The collaborative alliance signifies a crucial stride towards a cohesive strategy, driving progress, and ensuring adherence to standards in the rapidly evolving domain of RNA therapeutics.

For instance, the Alliance for mRNA Medicines (AMM) was established in November 2023 by 31 biotechnology, biopharma, and life science businesses as well as academic institutions at the vanguard of mRNA and next-generation encoding RNA medicines and vaccine development. Before legislative and regulatory agencies in North America, Europe, and Asia, AMM was the first and only scientific and policy organization exclusively dedicated to developing and advocating for global mRNA innovation and the sector's main policy objectives.

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*Companies mentioned above DO NOT hold any order as per market share and can be changed as per information available during research work

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