

Nucleic Acid Based Therapeutics Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

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Report description:

The nucleic acid based therapeutics market is expected to register a CAGR of 4.0% over the forecast period.

The demand for nucleic acid based therapeutics increased over the past two years as it was effectively used for the development of COVID-19 disease therapeutics. As per the article published by MDPI in February 2022, nucleic acid based technologies, including small interfering RNAs (siRNAs), antisense oligonucleotides (ASOs), and micro RNAs (miRNAs), were the most promising ones to combat the COVID-19 virus. These therapeutics have the ability to suppress viral gene expression both during and following transcription, consequently presenting significant opportunities for market growth. According to the article published by MDPI in October 2021, nucleic acid based anti-SARS-CoV-2 vaccines offered several advantages in comparison to traditional vaccines, such as high potency, greater immunogenicity by enhancing its stability and effectiveness of translation, less risk of infection, and high shelf-life stability. Thus, due to several advantages associated with these therapeutics, their demand surged during the pandemic and is expected to grow even during the forecast period. Moreover, in the past few years, public health organizations have approved various messenger Ribonucleic Acid (mRNA) vaccines for the treatment of COVID-19, which has driven the market growth. For instance, WHO approved SPIKEVAX, developed by Moderna in April 2021, which utilizes mRNA for the treatment of infection.

Further, the increasing number of investments in nucleic acid therapeutics, the high prevalence of chronic diseases such as cancer and cardiovascular diseases are factors augmenting the market growth. In May 2022, Soros Economic Development Fund (SEDF), pledged to offer USD 100 million to improve COVAX's capacity to boost the distribution of nucleic acid based COVID-19 vaccines to low- and middle-income countries. Also, in October 2022, the Kingdom of Saudi Arabia (KSA), announced the expenditure of USD 36.8 billion on healthcare development, which was approximately 14.4% of its 2022 budget. Thus, the surge in the various investments for healthcare development all over the world is expected to offer lucrative opportunities for market

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growth.

Moreover, the high prevalence of chronic diseases has resulted in high demand for nucleic acid based therapeutics. For instance, Breastcancer.org estimated the occurrence of 287,850 new cases of invasive breast cancer and 51,400 new cases of non-invasive (in situ) breast cancer in women in 2022. Such factors are likely to boost the adoption of nucleic acid based therapeutics, thereby contributing to the growth of the market studied. In addition, new product launches and strategic activities by major players in the market are positively affecting the growth of the market studied. For instance, in October 2022, Neuway Pharma GmbH and Wacker announced the launch of a research project for the identification and manufacturing of RNA-based therapeutics for the treatment of central nervous system disorders with the use of EnPC (Engineered Protein Capsules) protein-based drug delivery technology.

Therefore, owing to the aforementioned factors the market studied is anticipated to witness growth over the forecast period. However, the high cost of nucleic acid based therapeutics research is likely to impede market growth.

Nucleic Acid Based Therapeutics Market Trends

RNA Targeted Therapeutics is Expected to Witness Significant Growth Over the Forecast Period

RNA therapies are a rapidly growing class of medications that will revolutionize the way many diseases are treated and make personalized medicine a reality. These medications can target previously unreachable pathways and are reasonably easy to develop. Because both academic research organizations and small biotech businesses can quickly create novel and customized RNA structures, it is a disruptive therapeutic technique.

In addition, there has been a surge in the adoption of short interfering RNA (siRNA) and antisense oligonucleotides (ASO) for the treatment of various diseases. According to the research article published in the International Journal of Molecular Sciences in August 2022, the possibility of treating genetic illnesses and cancer by focusing on specifically targeted RNA in a sequence-dependent manner is being addressed by the invention of new target therapies based on the use of ASOs and RNA interference (RNAi). In recent years, the FDA has approved various drugs based on ASOs, further augmenting the segment's growth. For instance, in February 2021, the FDA approved a novel ASO Amondys 45 (casimersen) targeting exon 45 of the dystrophin gene in Duchenne muscular dystrophy (DMD) patients. Therefore, the increase in the adoption of siRNA and ASO, as well as the active approval of new drugs by the FDA, is expected to boost the segment's growth during the forecast period.

North America is Expected to Dominate the Nucleic Acid-Based Therapeutics Market

North America is expected to dominate the market due to factors such as the high prevalence of chronic diseases, such as cancer, diabetes and growing demand for targeted and personalized medicine, and favorable government initiatives. For instance, as per the CDC National Diabetes Statistics Report, published in January 2022, more than 130 people currently have diabetes in the United States.

The United States has had a significant portion of the market in North America. The rising investment in R&D activities leading to an increase in developments in gene therapy and the rising incidence of target diseases are the main drivers of market growth. For instance, according to an article on spinal muscular atrophy (SMA) from the U.S. Centers for Disease Control and Prevention that was updated in December 2021, SMA is a hereditary illness that affects around 1 in 10,000 persons. It is one of the most prevalent uncommon diseases as a result. The statistics show that gene therapy is becoming increasingly popular in the U.S.

The burgeoning investments in R&D activities in the United States are anticipated to have a major impact on regional market growth during the forecast period. For instance, in June 2022, The Cystic Fibrosis Foundation, a non-profit organization in the

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United States, announced its investment of \$6 million in Carbon Biosciences to strengthen the company's preclinical investigation into a novel gene treatment strategy for cystic fibrosis. Thus, the active participation of several organizations in the country to strengthen nucleic acid based therapeutics is also burgeoning regional growth.

Key product launches, the high concentration of market players, and the manufacturer's presence in the United States are some of the factors driving the growth of the nucleic acid based therapeutics market in the country. For instance, in January 2022, the U.S.-based biotechnology company Ionis Pharmaceuticals, Inc. announced the FDA approval of Tofersen, an investigational antisense medicine for the treatment of superoxide dismutase 1 amyotrophic lateral sclerosis (SOD1-ALS). Tofersen drug acts by inhibiting the production of the SOD1 protein with the aid of an antisense oligonucleotide. These continuous product launches in the region are anticipated to drive the growth of the market in the country.

Therefore, owing to the aforementioned factors, the growth of the studied market is anticipated in the North America Region.

Nucleic Acid Based Therapeutics Market Competitor Analysis

The nucleic acid based therapeutics market is fragmented due to the presence of many small players operating globally and regionally. The competitive landscape includes an analysis of a few international as well as local companies which hold market shares and are well known, including Silence Therapeutics plc, Ionis Pharmaceuticals, Inc., Novartis Pharma AG, Arrowhead Pharmaceuticals, Inc., BioNTech SE, Moderna, Inc., Alnylam Pharmaceuticals, Inc., Biogen, Inc., Wave Life Sciences, Imugene Ltd., among others.

Additional Benefits:

The market estimate (ME) sheet in Excel format
3 months of analyst support

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