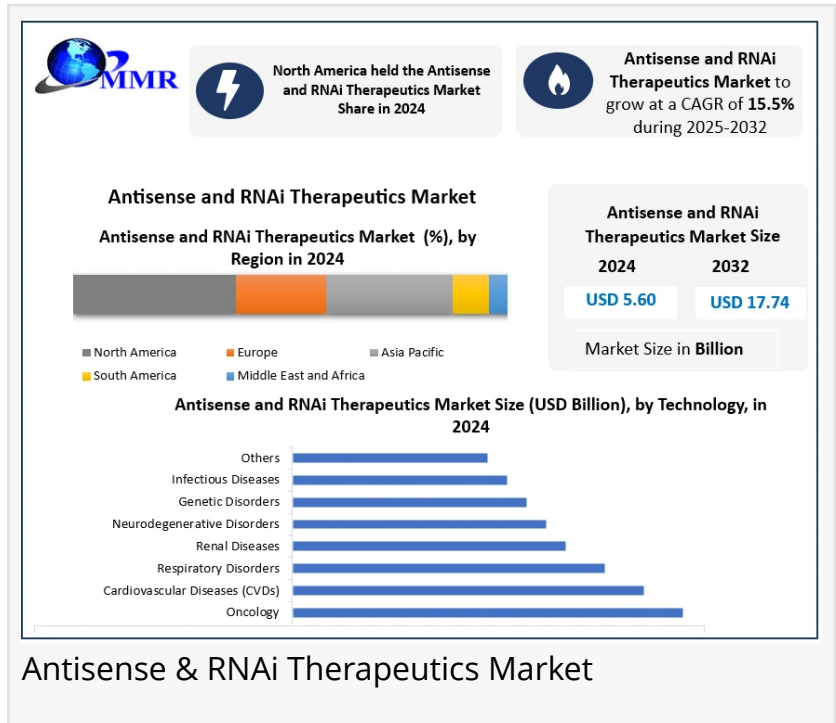


Antisense & RNAi Therapeutics Market to Reach USD 17.74 Billion by 2032, Driven by Gene-Silencing Breakthroughs

Antisense and RNAi Therapeutics Market size was valued at USD 5.60 billion in 2024 and is projected to witness growth at a CAGR of 15.5% from 2025 to 2032.

WILMINGTON, DE, UNITED STATES, October 30, 2025 /EINPresswire.com/ -- Global Antisense and RNAi Therapeutics Market size was valued at USD 5.60 billion in 2024 and is projected to witness robust growth at a CAGR of 15.5% from 2025 to 2032, reaching approximately USD 17.74 billion by 2032.

Global [Antisense & RNAi Therapeutics Market](#) Overview: Revolutionizing Genomic Medicine Through RNA Drug Innovations and Next-Generation Gene-Silencing Breakthroughs (2025–2032)



Antisense & RNAi Therapeutics Market

“

Redefining genomic medicine, the Antisense & RNAi Therapeutics Market thrives on RNA delivery innovation, gene-silencing technology, and targeted therapeutic evolution.”

Dharti Raut

Global Antisense & RNAi Therapeutics Market (2025–2032) is witnessing transformative growth, fueled by RNA-based drug innovations, gene-silencing breakthroughs, and advanced RNA therapeutics research. Driven by siRNA technology, antisense oligonucleotide advancements, and precision medicine development, the market is reshaping genomic healthcare. With strong biotech-pharma collaborations and rapid RNA drug commercialization, this sector is emerging as a global leader in next-generation RNA therapeutics and personalized medicine innovation.

RNA Drug Delivery Innovations and Gene-Silencing Breakthroughs Redefine Global Antisense & RNAi Therapeutics Market Growth

Global Antisense and RNAi Therapeutics Market is witnessing transformative growth, fueled by RNA drug delivery innovations, lipid nanoparticle delivery systems, and antisense oligonucleotide advancements. As gene-silencing therapeutics expand into oncology, neurology, and rare genetic disorders, next-generation RNA technologies are redefining precision medicine, unlocking unprecedented opportunities in siRNA therapy and targeted RNA-based drug development.

Global Antisense and RNAi Therapeutics Market Segments Covered	
By Technology	RNA Interference siRNA miRNA Antisense RNA
By Route of Administration	Intravenous Route Subcutaneous Route Intrathecal Route Pulmonary Delivery Intraperitoneal Injection Others
By Application	Oncology Cardiovascular Diseases (CVDs) Respiratory Disorders Renal Diseases Neurodegenerative Disorders Genetic Disorders Infectious Diseases Others
By Region	North America (United States, Canada and Mexico) Europe (UK, France, Germany, Italy, Spain, Sweden, Austria, Turkey, Russia and Rest of Europe) Asia Pacific (China, India, Japan, South Korea, Australia, ASEAN (Indonesia, Malaysia, Myanmar, Philippines, Singapore, Thailand, Viet Nam etc.) and Rest of APAC) Middle East and Africa (South Africa, GCC, Egypt, Nigeria and Rest of MEA) South America (Brazil, Argentina, Colombia and Rest of South America)

High Development Costs and Delivery Complexities Challenge the Global Antisense & RNAi Therapeutics Market Growth Trajectory

Global Antisense and RNAi Therapeutics Market faces significant hurdles due to the high cost of RNAi drug development, intricate RNA therapeutics manufacturing challenges, and delivery complexities. Despite rapid innovation, antisense therapy cost barriers and RNA-based drug pricing trends continue to test scalability, affordability, and regulatory progress in next-generation gene-silencing therapies.

Expanding RNA Therapeutics Pipeline and Precision Medicine Revolution Propel Global Antisense & RNAi Therapeutics Market Opportunities

Global Antisense and RNAi Therapeutics Market is poised for exponential growth, driven by RNA therapeutics pipeline expansion, breakthrough clinical advancements in antisense oligonucleotide therapies, and a surge in FDA-approved RNA-based drugs. As precision and personalized medicine gain momentum, innovative RNA drug commercialization trends are unlocking transformative possibilities in next-generation gene-silencing therapeutics.

Dominance of RNA Interference (siRNA) Technology Accelerates Growth Across Global Antisense & RNAi Therapeutics Market Segments

Global Antisense and RNAi Therapeutics Market is segmented by technology, route of

administration, and application, revealing a dynamic innovation landscape. The RNA Interference (siRNA) segment dominates due to its precision gene-silencing capabilities, rising siRNA drug approvals, and advancements in lipid nanoparticle delivery systems. As antisense and RNAi therapeutics redefine personalized medicine, expanding applications across oncology, neurology, and rare genetic disorders are unlocking the next frontier in RNA-based drug development.

Feel free to request a complimentary sample copy or view a summary of the report @ <https://www.maximizemarketresearch.com/request-sample/46233/>

Revolutionizing Gene-Silencing: Emerging RNA Delivery Breakthroughs and Strategic Collaborations Driving the Antisense and RNAi Therapeutics Market

RNA Delivery Innovations Redefining Precision Therapeutics: Advancements in GalNAc conjugates and lipid nanoparticle (LNP) delivery systems are enhancing targeted delivery, stability, and efficacy of siRNA and antisense oligonucleotide therapies, expanding applications beyond the liver to oncology and neurology.

Strategic Collaborations Accelerating RNA Drug Commercialization: Rising partnerships and licensing deals between biotech pioneers and pharma giants, such as Ionis-Roche and Alnylam-Regeneron, are boosting RNA therapeutics pipeline expansion, regulatory progress, and market penetration.

Expansion into Chronic and Common Disease Therapeutics: The market is shifting from rare genetic disorders toward chronic diseases like hypertension, Alzheimer's, and hypercholesterolemia, marking a pivotal move toward personalized and precision RNA-based medicine.

2025 Marks a Turning Point: Key RNA Drug Approvals and Clinical Success Driving Antisense and RNAi Therapeutics Growth

In 2025, Alnylam's HELIOS-B Phase III trial showed remarkable cardiac improvements and reduced mortality, reinforcing the Antisense and RNAi Therapeutics Market's leadership in RNA-based cardiovascular treatments and gene-silencing innovation.

Ionis Pharmaceuticals' ION224 achieved significant Phase II success in metabolic liver disease, underscoring the potential of antisense oligonucleotide therapies and fueling growth in precision RNA drug development.

Sarepta Therapeutics' SRP-5051 received FDA priority review for Duchenne muscular dystrophy, highlighting the accelerating RNA drug commercialization trends and expanding regulatory trust in antisense and RNAi therapeutics for rare genetic disorders.

Global Antisense and RNAi Therapeutics Market Competitive Landscape:

Global Antisense and RNAi Therapeutics Market is witnessing an intense competitive surge, led by innovators like Ionis Pharmaceuticals and Alnylam Pharmaceuticals, driving breakthroughs in gene-silencing and RNA delivery systems. With strategic alliances, FDA-backed therapies, and emerging contenders like Arrowhead and Silence Therapeutics, the market is evolving toward a precision-driven, partnership-fueled future in RNA-based drug development.

Global Antisense and RNAi Therapeutics Market Regional Insights: North America Leads RNA Innovation While Europe Accelerates Precision Medicine Growth

North America continues to dominate the Antisense and RNAi Therapeutics Market, driven by breakthrough RNA drug pipelines, advanced clinical research, and strategic biotech-pharma collaborations. With strong FDA and NIH support, cutting-edge R&D, and rapid RNA therapy commercialization, the region remains the epicenter of global gene-silencing innovation and therapeutic advancement.

Europe is emerging as a powerhouse in the Antisense and RNAi Therapeutics Market, propelled by strong genomic research, collaborative biotech ecosystems, and EU-backed precision medicine initiatives. With growing RNA drug funding and accelerated approval pathways, Europe is rapidly advancing RNA-based drug discovery, clinical validation, and next-generation gene-silencing innovations.

Global Antisense and RNAi Therapeutics Market, Key Players:

North America

Alnylam Pharmaceuticals – United States
Ionis Pharmaceuticals – United States
Biogen Inc. – United States
Sarepta Therapeutics – United States
Arrowhead Pharmaceuticals – United States
Avidity Biosciences – United States
Dyne Therapeutics – United States
Stoke Therapeutics – United States
Regulus Therapeutics – United States
Arbutus Biopharma – Canada

Europe

Novartis AG – Switzerland
GSK plc (GlaxoSmithKline) – United Kingdom
Silence Therapeutics – United Kingdom/Germany

Roche – Switzerland
AstraZeneca – United Kingdom/Sweden
Sanofi – France
Bayer – Germany
Boehringer Ingelheim – Germany
Secarna Pharmaceuticals – Germany
ProQR Therapeutics – Netherlands

Asia-Pacific

Benitec Biopharma Ltd – Australia
OliX Pharmaceuticals – South Korea
Sirnaomics – Hong Kong/China
Suzhou Ribo Life Science – China
Shanghai GenePharma – China
Nippon Shinyaku – Japan
Takeda Pharmaceutical – Japan
Daiichi Sankyo – Japan
Wave Life Sciences – Singapore
Bioneer – South Korea

FAQs:

What is driving the growth of the Global Antisense and RNAi Therapeutics Market?

Ans: The market growth is driven by breakthroughs in RNA drug delivery technologies, expanding RNA therapeutics pipelines, and rising demand for precision and personalized medicine.

Which region leads the Global Antisense and RNAi Therapeutics Market?

Ans: North America dominates the market due to strong R&D investment, FDA and NIH support, and rapid RNA therapy commercialization.

Who are the key players in the Antisense and RNAi Therapeutics Market?

Ans: Major players include Alnylam Pharmaceuticals, Ionis Pharmaceuticals, Sarepta Therapeutics, Novartis AG, GSK, and Silence Therapeutics.

Analyst Perspective:

Industry analysts view the Antisense and RNAi Therapeutics Market as one of the most promising frontiers in modern biotechnology, driven by rapid RNA innovation, expanding clinical pipelines, and rising pharma-biotech collaborations. The sector shows immense growth potential as leading players like Alnylam, Ionis, and Sarepta continue to pioneer RNA-based therapies, drawing significant investor confidence and long-term capital inflows.

Related Reports:

Nucleic Acid Therapeutics Market: <https://www.maximizemarketresearch.com/market-report/nucleic-acid-therapeutics-market/259289/>

Maximize Market Research is launching a subscription model for data and analysis in the Antisense and RNAi Therapeutics Market:

<https://www.mmrstatistics.com/markets/728/topic/584/chemicals>

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