

# RNAi Therapeutics Market to Hit \$8.8B by 2033, Driven by Rare & Cardiovascular Diseases & siRNA and Delivery Innovations

*RNAi Therapeutics Market forecast: \$8.8 Billion by 2033. Key growth from siRNA, GalNAc delivery tech, North America leadership, APAC fastest rise.*

AUSTIN, TX, UNITED STATES, October 1, 2025 /EINPresswire.com/ -- According to DataM Intelligence, the [RNAi Therapeutics Market](#) will grow from USD 2.60 billion in 2024 to USD 8.80 billion by 2033, expanding at a robust CAGR of 14.6% between 2025 and 2033. This surge reflects increasing adoption of RNAi platforms, advances in delivery technologies such as GalNAc

conjugates, and a strong pipeline of candidates targeting both rare and high-prevalence diseases. The siRNA segment remains the largest contributor, supported by multiple regulatory approvals and robust late-stage pipelines. Regionally, North America dominates the market due to early adoption, strong R&D ecosystems, and regulatory support, while Asia-Pacific is expected to record the fastest CAGR thanks to rising investments in biotech, government initiatives, and increasing disease prevalence.

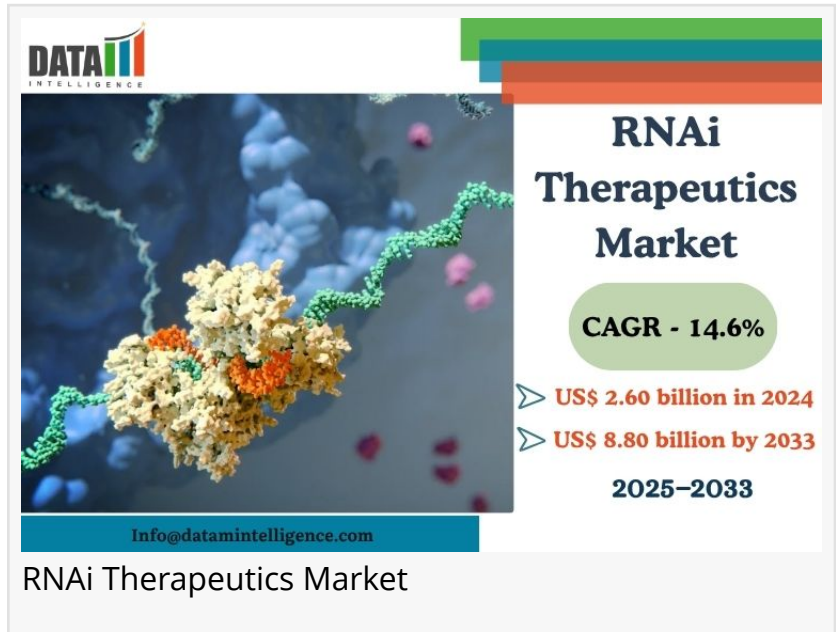
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With a CAGR of 14.6%, the RNAi Therapeutics Market will surge to USD 8.80 Billion by 2033, driven by siRNA dominance, regulatory approvals, and growth in North America and APAC regions.”

*DataM Intelligence*

RNA interference (RNAi) therapeutics represent one of the most exciting frontiers in precision medicine. By harnessing the body's natural mechanism for silencing genes, RNAi drugs can specifically inhibit the expression of disease-causing genes at the mRNA level. This offers unmatched precision compared to traditional small-molecule drugs, positioning RNAi therapies as a transformative solution for genetic, metabolic,

cardiovascular, and rare disorders. From the first FDA-approved RNAi drug, Onpattro, to more



recent approvals such as Leqvio for cardiovascular disease, the industry has demonstrated both clinical validity and commercial viability.

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#### Key Highlights from the Report:

- The RNAi Therapeutics Market is projected to reach USD 8.80 billion by 2033, growing at a CAGR of 14.6% (2025–2033).
- The siRNA segment leads the market with the largest revenue share, driven by multiple FDA and EMA-approved drugs.
- North America holds the dominant share in 2024, supported by advanced R&D infrastructure and regulatory approvals.
- Asia-Pacific is anticipated to grow at the fastest rate, fueled by rising biotech investments and growing healthcare access.
- Delivery innovations such as GalNAc conjugates and lipid nanoparticles (LNPs) are addressing safety and targeting challenges.
- Strategic collaborations between biotech innovators and big pharma are accelerating clinical development and commercialization.

#### Recent Developments:

##### United States: Recent Industry Developments:

1. In August 2025, Alnylam Pharmaceuticals expanded its RNAi therapeutics pipeline, targeting rare genetic diseases and metabolic disorders in the U.S., emphasizing precision gene silencing.
2. In July 2025, Arrowhead Pharmaceuticals launched novel RNAi drug candidates, integrating lipid nanoparticle delivery systems for improved efficacy and safety.
3. In June 2025, Dicerna Pharmaceuticals (Novo Nordisk) partnered with U.S. research institutions to accelerate clinical development of RNAi therapies for chronic and rare diseases.

##### Europe: Recent Industry Developments:

1. In July 2025, Sanofi Europe advanced its RNAi therapeutics programs, focusing on liver-targeted disorders and rare diseases in EU markets.
2. In June 2025, Ipsen launched next-generation RNAi drug candidates in Europe, emphasizing innovative delivery mechanisms and targeted gene silencing.
3. In May 2025, CureVac partnered with EU healthcare centers to implement RNAi-based

therapies for oncology and metabolic indications.

#### Japan: Recent Industry Developments:

1. In July 2025, Daiichi Sankyo expanded its RNAi therapeutics research in Japan, targeting genetic disorders with high unmet medical needs.
2. In June 2025, Takeda Pharmaceutical launched novel RNAi drug programs, supporting early-phase clinical trials and gene silencing research.
3. In May 2025, Astellas Pharma partnered with Japanese institutions to accelerate RNAi-based therapeutic development, focusing on precision medicine applications.

#### Company Insights:

Key players operating in the RNAi therapeutics market include:

Alnylam Pharmaceuticals, Inc  
Dicerna Pharmaceuticals  
Silence Therapeutics  
Arrowhead Pharmaceuticals, Inc  
Sanofi  
Glaxosmithkline Plc  
Arbutus Biopharma Corporation  
Benitec Biopharma  
Thermo Fisher Scientific Inc  
Sirnaomics, Inc

#### Market Segmentation:

The RNAi therapeutics market is segmented by product type, application, end user, and delivery method.

##### By Product Type:

siRNA (small interfering RNA): Holds the largest market share. siRNA-based drugs such as Onpattro (patisiran), Givlaari (givosiran), and Leqvio (inclisiran) have demonstrated real-world efficacy and paved the way for future siRNA products.

miRNA (microRNA): Emerging as a promising segment, though still in earlier stages compared to siRNA. Therapeutic applications include oncology and immune regulation.

Antisense RNA / other RNAi molecules: Offer alternative approaches but remain a smaller segment compared to siRNA.

### By Therapeutic Application:

Genetic and rare diseases: Such as transthyretin-mediated amyloidosis and primary hyperoxaluria, remain the first wave of approved indications.

Cardiovascular diseases: Leqvio's approval highlights RNAi's entry into large-scale, high-prevalence conditions.

Oncology: Ongoing clinical trials are testing RNAi platforms in multiple cancer types.

Infectious diseases and metabolic disorders: Areas of active research with strong commercial potential.

### By End User:

Hospitals and specialty clinics represent the largest end-user base, as RNAi therapies often require specialized administration and monitoring.

Research institutes and CROs contribute significantly to early-stage development and pipeline advancement.

### By Delivery Method:

GalNAc conjugates: Now the gold standard for liver targeting due to their specificity and reduced toxicity.

Lipid nanoparticles (LNPs): Widely used for both RNAi and mRNA platforms, offering versatility for systemic delivery.

Other emerging delivery systems: Including viral vectors, polymer carriers, and exosomes, aimed at expanding RNAi therapies beyond the liver.

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### Regional Insights:

#### North America

North America is the largest market for RNAi therapeutics, holding a significant revenue share in 2024. The U.S. is home to pioneering companies such as Alnylam Pharmaceuticals and Arrowhead Pharmaceuticals, both of which have built extensive RNAi pipelines. Favorable regulatory support from the FDA, a robust reimbursement framework, and advanced clinical trial

infrastructure all reinforce the region's dominance. Strategic alliances with big pharma companies further enhance innovation and commercialization.

## Europe

Europe is another strong market, with countries such as Germany, the UK, and France actively involved in RNAi drug development. The European Medicines Agency (EMA) has approved several RNAi drugs, further validating the therapeutic approach. Strong biotech hubs and government funding for rare disease research support the market's expansion.

## Asia-Pacific

Asia-Pacific is expected to record the highest CAGR through 2033. China, Japan, and India are leading the way with expanding biotech ecosystems and rising patient pools. Government incentives for precision medicine, growing research collaborations, and cost-effective clinical trial capabilities make APAC a fertile ground for RNAi therapeutics growth.

## Latin America & Middle East

These regions remain in nascent stages but hold long-term potential. As healthcare infrastructure improves and multinational companies expand their presence, adoption of RNAi drugs is expected to increase. Brazil, Saudi Arabia, and the UAE are likely to emerge as regional leaders.

## Market Dynamics:

### Market Drivers

The key driver of market growth is the increasing prevalence of genetic and rare diseases, where RNAi drugs offer highly targeted treatments. Technological advancements such as GalNAc conjugates and LNPs have also made RNAi therapies safer and more effective, broadening their applications beyond rare diseases to common conditions like hypercholesterolemia. Additionally, regulatory incentives such as orphan drug designations, fast-track approvals, and breakthrough therapy status have accelerated development timelines, making RNAi therapeutics a priority area for investment.

### Market Restraints

Despite progress, challenges persist. Delivery beyond the liver remains complex, limiting therapeutic applications in other organs such as the lungs, CNS, or muscles. High manufacturing costs, scalability issues, and the need for cold-chain logistics increase the burden on healthcare systems. Safety concerns—particularly off-target effects and immunogenicity also remain barriers to broader adoption. Furthermore, competition from alternative technologies like CRISPR gene editing and antisense oligonucleotides poses a challenge.

### Market Opportunities

Expanding RNAi delivery to non-hepatic tissues presents a significant growth opportunity. Research into oncology, infectious diseases, and neurological conditions could open new

markets. The expansion of RNAi into large patient populations, demonstrated by inclisiran in cardiovascular disease, shows the modality's potential beyond rare diseases. Additionally, emerging markets such as Asia-Pacific and Latin America offer opportunities due to growing healthcare access and supportive government policies. Strategic partnerships, mergers, and collaborations between biotech firms and big pharma are expected to accelerate innovation and commercialization.

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Reasons to Buy the Report:

- Detailed analysis of market size, share, and growth trends up to 2033.
- Insight into RNAi product pipelines, therapeutic applications, and delivery innovations.
- Regional intelligence covering North America, Europe, Asia-Pacific, and emerging markets.
- Competitive landscape featuring major players, partnerships, and strategic developments.
- Actionable insights on drivers, restraints, and opportunities to inform investment and strategy.

Frequently Asked Questions (FAQs):

- How Big is the RNAi Therapeutics Market in 2024 and what is its forecast for 2033?
- Who are the Key Players in the Global RNAi Therapeutics Market?
- What is the Projected Growth Rate (CAGR) of the RNAi Therapeutics Market from 2025 to 2033?
- Which Region is Expected to Dominate the RNAi Therapeutics Industry during the Forecast Period?
- What are the Major Challenges Restraining the Growth of the RNAi Therapeutics Market?

Conclusion:

The RNAi therapeutics market is on the cusp of significant expansion, projected to grow from USD 2.60 billion in 2024 to USD 8.80 billion by 2033 at a CAGR of 14.6% (2025–2033). With strong momentum from approved therapies, advancing delivery platforms, and rising investor confidence, RNAi has transitioned from a niche innovation to a mainstream therapeutic modality. North America continues to lead in adoption and innovation, while Asia-Pacific is emerging as the fastest-growing region.

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