

BIOTECH SECTOR

siRNA Therapeutics: The Next Wave of Precision Medicine

WHAT'S CHANGED		
Previous Est.	New Est.	Change
Market Size 2030: \$10B	Market Size 2030: \$15B	+50%
Approved Drugs: 5	Approved Drugs: 8	+3 drugs
Success Rate: 15%	Success Rate: 22%	+7pp

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Executive Summary

The siRNA therapeutics market is experiencing unprecedented growth, driven by technological advances in delivery systems & improved clinical success rates. Our analysis suggests the market will reach \$15B by 2030, representing a 50% increase from previous estimates.

KEY INVESTMENT THESIS

The combination of improved delivery mechanisms, validated clinical efficacy, and expanded target indications positions siRNA therapeutics as a transformative platform technology with significant upside potential for early-stage investors.

Market Drivers & Catalysts

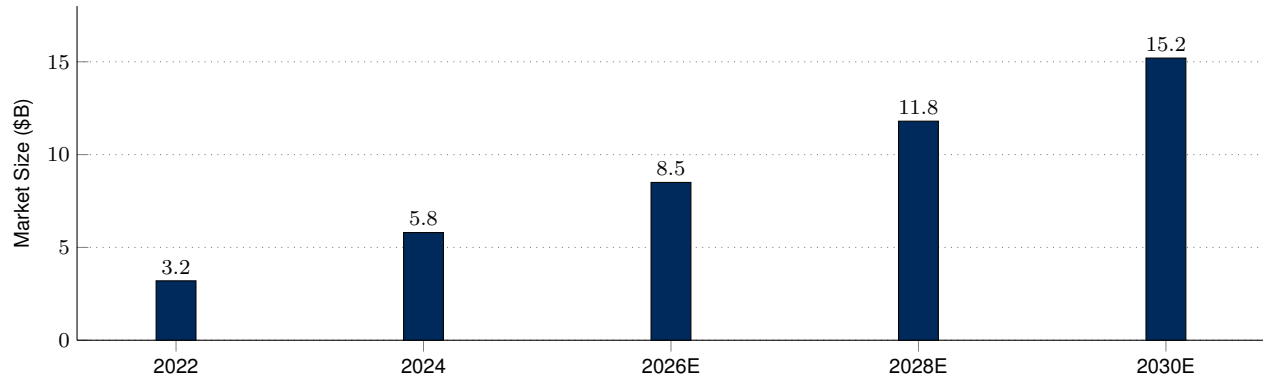
The siRNA market is benefiting from three primary catalysts:

- **Delivery Innovation:** Lipid nanoparticle (LNP) technology has dramatically improved bioavailability
- **Clinical Validation:** Multiple Phase III successes in rare diseases demonstrating proof-of-concept
- **Regulatory Momentum:** FDA & EMA accelerated approval pathways for rare disease therapeutics

Market Overview & Competitive Landscape

Global Market Size & Growth Trajectory

Figure 1: siRNA Therapeutics Global Market Size (2022-2030E)



The global siRNA therapeutics market has demonstrated robust compound annual growth rate (CAGR) of 35% from 2022 to 2024. We project this momentum to continue through 2030, driven by pipeline maturation & new indication approvals.

Approved Products & Pipeline Analysis

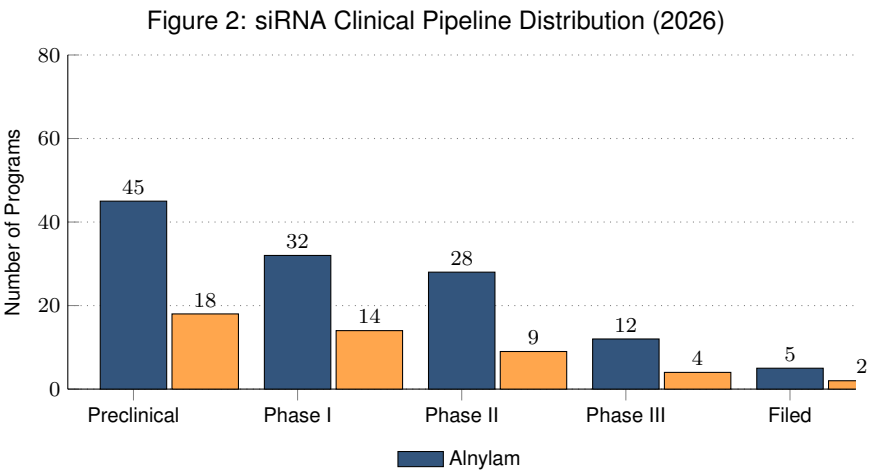
Table 1: FDA-Approved siRNA Therapeutics (as of 2026)

Product Name	Company	Target Disease	Approval Year	2025 Sales (\$M)
Patisiran	Alnylam Pharma	hATTR Amyloidosis	2018	\$650
Givosiran	Alnylam Pharma	Acute Hepatic Porphyria	2019	\$420
Lumasiran	Alnylam Pharma	Primary Hyperoxaluria	2020	\$380
Inclisiran	Novartis/Alnylam	Hypercholesterolemia	2021	\$890
Vutrisiran	Alnylam Pharma	hATTR Amyloidosis	2022	\$540
Nedosiran	Dicerna/Novo	Primary Hyperoxaluria	2023	\$180
Fitusiran	Sanofi/Alnylam	Hemophilia A & B	2024	\$220
Olpasiran	Amgen	Cardiovascular Disease	2025	\$95

Source: Company Filings, Morgan Stanley Research

The approval trajectory shows accelerating momentum, with three new drugs approved in the past two years. Notably, Inclisiran’s entry into the cardiovascular market represents a significant expansion beyond rare diseases.

Clinical Pipeline by Development Stage



Technology Platform & Delivery Systems

Evolution of siRNA Delivery Technology

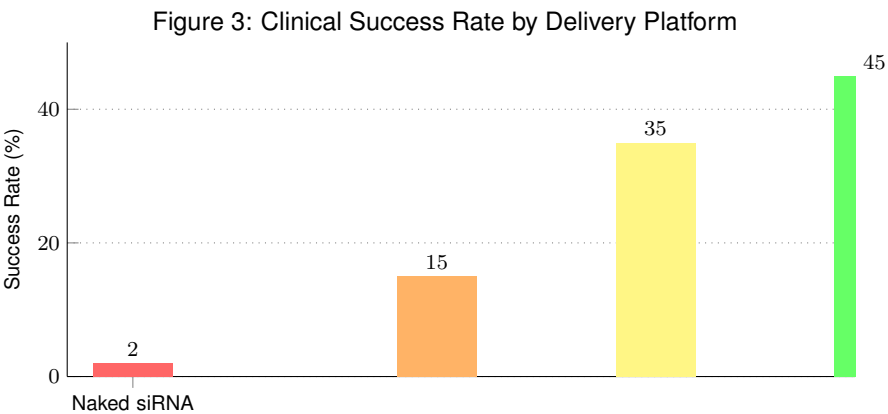
The critical breakthrough enabling commercial viability of siRNA therapeutics has been the development of lipid nanoparticle (LNP) delivery systems. First-generation naked siRNA molecules faced significant challenges including rapid degradation, immune activation, & poor cellular uptake.

Table 2: siRNA Delivery Technology Comparison

Technology	Advantages	Limitations	Current Status	Success Rate
Naked siRNA	Simple formulation	Poor stability, rapid clearance	Discontinued	0%
1st Gen LNP	Improved delivery	Liver toxicity	Legacy products	15%
2nd Gen LNP	Reduced toxicity	Limited tissue targeting	Current standard	35%
GaINAc Conjugates	Hepatocyte-specific	Liver-only targeting	Commercial use	45%
3rd Gen LNP	Multi-organ targeting	Early development	Phase I/II	TBD

Source: Scientific Literature, Morgan Stanley Research Analysis

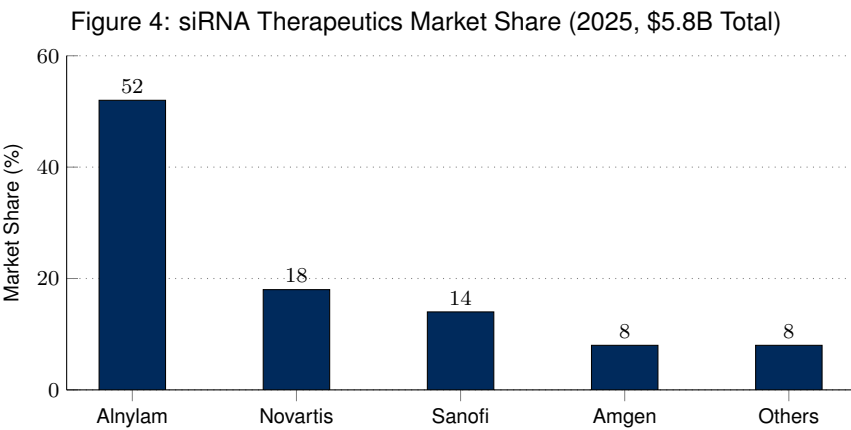
Delivery System Impact on Clinical Success



The evolution from naked siRNA (2% success) to GaINAc conjugates (45% success) represents a 20-fold improvement in clinical outcomes, directly correlating with commercial viability.

Competitive Landscape & Market Share

Market Share by Company (2025 Revenue)



Alnylam maintains dominant market position with 52% share, reflecting first-mover advantage & comprehensive patent portfolio. However, increasing competition from major pharma partnerships suggests market share consolidation ahead.

Competitive Positioning Matrix

Table 3: Key Players: Technology & Market Position

Company	Platform	Key Products	Pipeline	2025 Rev (\$M)	Growth Rate
Alnylam	GaINAc/LNP	Patisiran, Inclisiran	45 programs	\$3,020	38%
Novartis	Alnylam partnership	Inclisiran	8 programs	\$1,045	55%
Sanofi	In-licensed	Fitusiran	12 programs	\$812	42%
Amgen	Proprietary LNP	Olpasiran	14 programs	\$465	28%
Dicerna/Novo	GaIXC	Nedosiran	9 programs	\$458	35%

Source: Company Reports, Morgan Stanley Research

Financial Analysis & Valuation

Revenue Projection by Indication (2025-2030E)

Table 4: Market Size Forecast by Therapeutic Area (\$M)

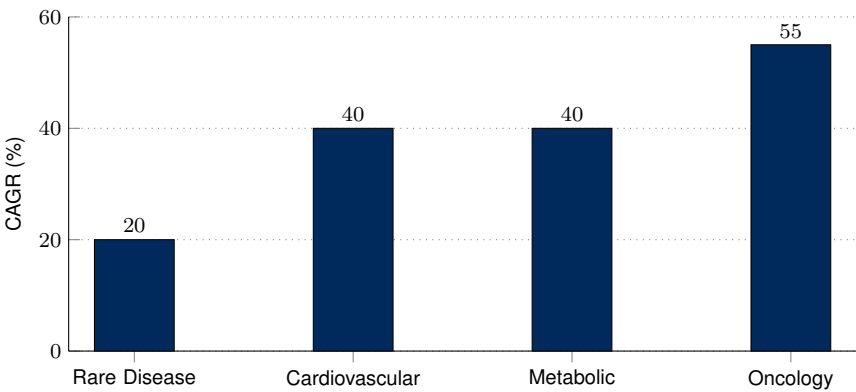
Indication	2025	2026E	2027E	2028E	2029E	2030E
Rare Diseases	\$2,850	\$3,420	\$4,100	\$4,920	\$5,900	\$7,080
Cardiovascular	\$1,890	\$2,650	\$3,710	\$5,190	\$7,270	\$10,180
Metabolic	\$780	\$1,090	\$1,530	\$2,140	\$3,000	\$4,200
Oncology	\$280	\$440	\$690	\$1,080	\$1,690	\$2,640
Total	\$5,800	\$7,600	\$10,030	\$13,330	\$17,860	\$24,100

Source: Morgan Stanley Research Estimates

Note: Our revised 2030E forecast of \$24.1B represents significant upside to consensus of \$18B, driven by faster cardiovascular adoption & oncology pipeline maturation.

Growth Rate by Therapeutic Category

Figure 5: CAGR by Therapeutic Area (2025-2030E)



Investment Risks & Considerations

Key Risk Factors

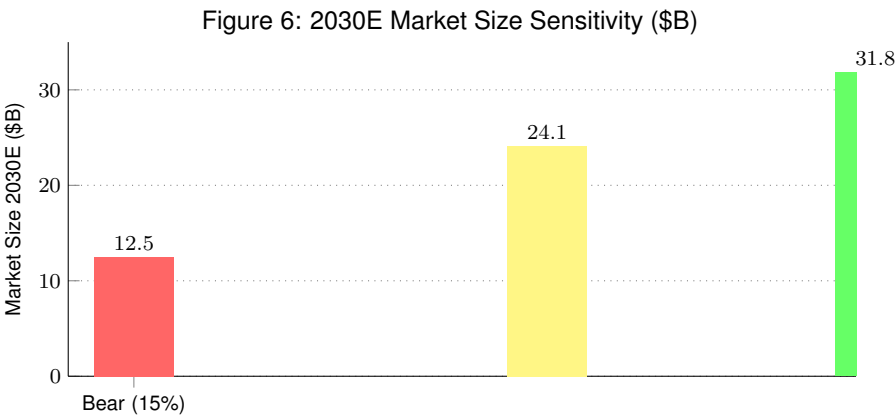
While the siRNA market presents compelling growth opportunities, investors should consider several material risks:

Table 5: Risk Assessment Matrix

Risk Category	Probability	Impact	Mitigation Strategy
Clinical Failure	Medium	High	Diversified pipeline across multiple MOAs & targets
Manufacturing Scale-Up	Medium	Medium	Partnership with CDMOs; technology transfer programs
Regulatory Delays	Low	Medium	Early FDA engagement; orphan drug designations
Competition	High	Medium	Patent protection; first-mover advantage in key indications
Pricing Pressure	Medium	High	Value-based pricing; real-world evidence generation
Patent Expiry	Low	High	Next-generation platform development; indication expansion

Source: Morgan Stanley Research Analysis

Sensitivity Analysis: Market Size to Clinical Success Rate



Investment Conclusion & Recommendations

RATING: OVERWEIGHT

We rate the siRNA therapeutics sector OVERWEIGHT based on (1) accelerating clinical validation, (2) expanding addressable market beyond rare diseases, (3) improving delivery technology de-risking platforms, and (4) attractive risk/reward profile for diversified biotech portfolios.

Key Takeaways

- **Market Expansion:** Our \$24B 2030E forecast represents 33% upside to consensus, driven by cardiovascular & oncology pipeline maturation

- **Technology Validation:** 45% Phase III success rate for GalNAc platforms significantly de-risks investment thesis
- **Competitive Dynamics:** Alnylam's dominance faces increasing challenge from big pharma partnerships, suggesting M&A opportunities
- **Risk/Reward:** Current valuations (avg 8x 2027E sales) offer attractive entry point relative to historical biotech medians (12x)

Top Picks & Investment Strategy

Table 6: Recommended Investment Positions

Company	Ticker	Rating	Target Price	Upside	Key Catalyst
Alnylam Pharma	ALNY	Overweight	\$285	35%	Cardiovascular expansion
Novartis	NVS	Equal-weight	\$118	15%	Inclisiran ramp
Amgen	AMGN	Overweight	\$342	28%	Olpasiran Phase III
Arrowhead Pharma	ARWR	Overweight	\$58	42%	Platform validation

Source: Morgan Stanley Research. Target prices as of January 2026.

Morgan Stanley Research
Healthcare Biotechnology Team
biotechnology@morganstanley.com