

South Korea Rna Interference (Rnai) Drug Delivery Market Forecast 2024-2032

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KEY FINDINGS

The South Korea RNA interference (RNAi) drug delivery market is predicted to develop at a CAGR of 21.61% over the forecast period of 2024-2032. It is set to reach a revenue of \$6901.97 million by 2032.

MARKET INSIGHTS

The South Korea RNA interference (RNAi) drug delivery market is witnessing growth and interest due to several key factors. One of these factors is the application of RNAi drugs in cancer treatment, which has garnered considerable attention in the medical community. RNAi technology offers a promising approach to target specific genes involved in cancer progression, potentially leading to more effective and personalized treatment options for patients.

Another area driving the traction for RNAi drugs in South Korea is the management of infectious diseases. RNAi-based therapeutics show potential in addressing infectious diseases by targeting viral or bacterial genes, thereby inhibiting their replication and spread. This application has become increasingly relevant, especially in the context of emerging infectious disease threats and the need for innovative treatment strategies.

A notable trend in the South Korea RNA interference (RNAi) drug delivery market is the substantial increase in venture funding. This influx of investment reflects growing confidence in the potential of RNAi technologies and their commercial viability. Increased funding enables research and development efforts, clinical trials, and the commercialization of RNAi drugs, driving market expansion and innovation.

Despite the positive momentum, challenges exist that could impact market demand and growth. One such challenge is the complexity of RNAi technology, which may pose hurdles in terms of development, production, and regulatory approval processes. The intricate mechanisms involved in RNA interference require robust expertise and infrastructure, potentially affecting market uptake and adoption rates.

Regulatory challenges also play a significant role in shaping the market landscape in South Korea. Stringent regulatory frameworks and approval processes can contribute to delays and uncertainties in bringing RNAi-based therapeutics to market. Navigating these regulatory hurdles effectively will be crucial for market players to capitalize on the full potential of RNAi technologies in the country's healthcare sector.

SEGMENTATION ANALYSIS

The South Korea RNA interference (RNAi) drug delivery market segmentation incorporates the market by application and technology. The technology segment is further classified into nanoparticle drug delivery, pulmonary drug delivery, nucleic acid

drug delivery, and aptamer drug delivery. Within the technology segment, nanoparticle drug delivery stands out as a frontrunner. Nanoparticles offer a versatile platform for RNAi drug delivery, enabling targeted delivery to specific tissues or cells while minimizing off-target effects. This precision targeting enhances the therapeutic potential of RNAi drugs, making them more effective in treating complex diseases such as cancer, genetic disorders, and viral infections.

Pulmonary drug delivery represents another significant aspect of the market segmentation. With advancements in inhalation technology, RNAi drugs can be delivered directly to the lungs, offering targeted therapy for respiratory diseases like asthma, chronic obstructive pulmonary disease (COPD), and cystic fibrosis. This route of delivery improves drug efficacy and reduces systemic side effects, making it a preferred choice for respiratory therapeutics.

Nucleic acid drug delivery is a cornerstone of RNAi therapeutics, encompassing a wide range of delivery systems designed to transport RNA molecules into target cells. These delivery systems include lipid nanoparticles, viral vectors, and polymer-based carriers, each offering unique advantages in terms of stability, cellular uptake, and payload capacity. The continuous innovation in nucleic acid delivery technologies drives the growth and diversification of the RNAi drug delivery market in South Korea. Aptamer drug delivery emerges as a promising area within the market segmentation, leveraging the specificity and binding affinity of aptamers to deliver RNAi payloads with precision. Aptamers, often referred to as 'chemical antibodies,' can be engineered to target specific molecules or cell surface receptors, enabling targeted delivery of RNAi drugs to diseased cells while sparing healthy tissues. This targeted approach reduces systemic toxicity and improves therapeutic outcomes, positioning aptamer-based drug delivery as a key player in the evolving field of RNAi therapeutics.

COMPETITIVE ANALYSIS

Top players operating in the South Korea RNA interference (RNAi) drug delivery market include Arbutus Biopharma Corp, Silence Therapeutics PLC, Sirnaomics Inc, etc.

Arbutus Biopharma, previously recognized as Tekmira, is a clinical-stage biopharmaceutical entity renowned for its profound virology proficiency. Its primary objective is to address ailments that lack adequate medical solutions. Situated in the United States, the company boasts formidable in-house research capabilities that have resulted in a remarkable collection of resources dedicated to combating various viral disorders.

Table of Contents:

TABLE OF CONTENTS

- 1. RESEARCH SCOPE & METHODOLOGY
- 1.1. STUDY OBJECTIVES
- 1.2. METHODOLOGY
- **1.3. ASSUMPTIONS & LIMITATIONS**
- 2. EXECUTIVE SUMMARY
- 2.1. MARKET SIZE & ESTIMATES
- 2.2. COUNTRY SNAPSHOT
- 2.3. COUNTRY ANALYSIS
- 2.4. SCOPE OF STUDY
- 2.5. CRISIS SCENARIO ANALYSIS
- 2.6. MAJOR MARKET FINDINGS
- 2.6.1. CARDIOLOGY IS THE FASTEST-GROWING RNAI DRUG DELIVERY APPLICATION
- 2.6.2. NANOPARTICLE DRUG DELIVERY IS THE MAJORLY PREFERRED RNAI DRUG DELIVERY TECHNOLOGY
- 3. MARKET DYNAMICS
- 3.1. KEY DRIVERS
- 3.1.1. INCREASING DEMAND FOR RNA-BASED THERAPEUTICS TO STIMULATE MARKET GROWTH
- 3.1.2. RISING PREVALENCE OF CHRONIC DISEASES FOSTERS MARKET DEMAND
- 3.1.3. GROWING INVESTMENT IN RNA-BASED RESEARCH TO ESCALATE THE MARKET GROWTH
- 3.2. KEY RESTRAINTS

3.2.1. THE COMPLEXITY OF RNAI TECHNOLOGY IS PREDICTED TO HINDER MARKET DEMAND

3.2.2. REGULATORY CHALLENGES ARE EXPECTED TO FURTHER COMPLICATE MARKET GROWTH

4. KEY ANALYTICS

4.1. KEY MARKET TRENDS

- 4.1.1. RNAI DRUGS HAVE APPLICATIONS IN CANCER TREATMENT
- 4.1.2. INFECTIOUS DISEASES ARE LEADING TO INCREASED TRACTION IN RNAI DRUGS
- 4.1.3. VENTURE FUNDING FOR RNAI DRUGS HAS INCREASED SUBSTANTIALLY
- 4.2. PORTER'S FIVE FORCES ANALYSIS
- 4.2.1. BUYERS POWER
- 4.2.2. SUPPLIERS POWER
- 4.2.3. SUBSTITUTION
- 4.2.4. NEW ENTRANTS
- 4.2.5. INDUSTRY RIVALRY
- 4.3. GROWTH PROSPECT MAPPING
- 4.3.1. GROWTH PROSPECT MAPPING FOR SOUTH KOREA
- 4.4. MARKET MATURITY ANALYSIS
- 4.5. MARKET CONCENTRATION ANALYSIS
- 4.6. VALUE CHAIN ANALYSIS
- 4.6.1. PRIMARY ACTIVITIES
- 4.6.1.1. RESEARCH AND DEVELOPMENT (R&D)
- 4.6.1.2. MANUFACTURING
- 4.6.1.3. LOGISTICS AND DISTRIBUTION
- 4.6.1.4. MARKETING AND SALES
- 4.6.1.5. AFTER-SALES SERVICE
- 4.6.2. SUPPORT ACTIVITIES
- 4.6.2.1. PROCUREMENT
- 4.6.2.2. TECHNOLOGY DEVELOPMENT
- 4.6.2.3. HUMAN RESOURCE MANAGEMENT
- 4.6.2.4. FIRM INFRASTRUCTURE
- 4.6.2.5. REGULATORY AFFAIRS AND COMPLIANCE
- 4.7. KEY BUYING CRITERIA
- 4.7.1. EFFICACY AND SAFETY
- 4.7.2. MECHANISM OF ACTION AND TARGET SPECIFICITY
- 4.7.3. DELIVERY SYSTEM AND ADMINISTRATION ROUTE
- 4.7.4. COMPETITIVE ADVANTAGE AND DIFFERENTIATION
- 4.7.5. REGULATORY APPROVAL AND COMPLIANCE
- 4.7.6. COST AND REIMBURSEMENT
- 4.7.7. INTELLECTUAL PROPERTY AND EXCLUSIVITY
- 4.7.8. MANUFACTURING CAPABILITIES AND SUPPLY CHAIN
- 4.7.9. COMPANY REPUTATION AND EXPERIENCE
- 5. MARKET BY APPLICATION
- 5.1. ONCOLOGY
- 5.1.1. MARKET FORECAST FIGURE
- 5.1.2. SEGMENT ANALYSIS
- 5.2. INFECTIOUS DISEASE
- 5.2.1. MARKET FORECAST FIGURE
- 5.2.2. SEGMENT ANALYSIS

5.3. NEUROLOGY 5.3.1. MARKET FORECAST FIGURE 5.3.2. SEGMENT ANALYSIS 5.4. CARDIOLOGY 5.4.1. MARKET FORECAST FIGURE 5.4.2. SEGMENT ANALYSIS 5.5. METABOLIC DISORDERS 5.5.1. MARKET FORECAST FIGURE 5.5.2. SEGMENT ANALYSIS 5.6. OPHTHALMOLOGY 5.6.1. MARKET FORECAST FIGURE 5.6.2. SEGMENT ANALYSIS 5.7. UROLOGY 5.7.1. MARKET FORECAST FIGURE 5.7.2. SEGMENT ANALYSIS 5.8. OTHER APPLICATIONS 5.8.1. MARKET FORECAST FIGURE 5.8.2. SEGMENT ANALYSIS 6. MARKET BY TECHNOLOGY 6.1. NANOPARTICLE DRUG DELIVERY 6.1.1. MARKET FORECAST FIGURE 6.1.2. SEGMENT ANALYSIS 6.2. PULMONARY DRUG DELIVERY 6.2.1. MARKET FORECAST FIGURE 6.2.2. SEGMENT ANALYSIS 6.3. NUCLEIC ACID DRUG DELIVERY 6.3.1. MARKET FORECAST FIGURE 6.3.2. SEGMENT ANALYSIS 6.4. APTAMER DRUG DELIVERY 6.4.1. MARKET FORECAST FIGURE 6.4.2. SEGMENT ANALYSIS 7. COMPETITIVE LANDSCAPE 7.1. KEY MARKET STRATEGIES 7.1.1. PRODUCT LAUNCHES & DEVELOPMENTS 7.1.2. PARTNERSHIPS & AGREEMENTS 7.2. COMPANY PROFILES 7.2.1. ALNYLAM PHARMACEUTICALS INC 7.2.1.1. COMPANY OVERVIEW 7.2.1.2. PRODUCT PORTFOLIO 7.2.1.3. STRENGTHS & CHALLENGES 7.2.2. ARBUTUS BIOPHARMA CORP 7.2.2.1. COMPANY OVERVIEW 7.2.2.2. PRODUCT PORTFOLIO 7.2.2.3. STRENGTHS & CHALLENGES 7.2.3. IONIS PHARMACEUTICALS INC 7.2.3.1. COMPANY OVERVIEW 7.2.3.2. PRODUCT PORTFOLIO

7.2.3.3. STRENGTHS & CHALLENGES
7.2.4. SIRNAOMICS INC
7.2.4.1. COMPANY OVERVIEW
7.2.4.2. PRODUCT PORTFOLIO
7.2.4.3. STRENGTHS & CHALLENGES
7.2.5. SILENCE THERAPEUTICS PLC
7.2.5.1. COMPANY OVERVIEW
7.2.5.2. PRODUCT PORTFOLIO
7.2.5.3. STRENGTHS & CHALLENGES



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