

Non-Viral Drug Delivery Systems Market (2nd Edition), 2023-2035: Distribution by Type of Molecule Delivered (Small Molecules and Biologics), Type of Biologic Delivered (RNAi / mRNA, DNA Oligonucleotides, Antibodies, Proteins / Peptides), Type of Vehicle Used (Cell Penetrating Peptides, Extracellular Vesicles, Oligonucleotides, Nanoparticles and Polymers), **Target Therapeutic Area (Infectious Diseases, Oncological Disorders, Genetic Disorders,** Neurological Disorders, Hepatic Disorders, Cardiovascular Disorders and Other Disorders), Type of Payment (Upfront Payments and Milestone Payments) and Key Geographies (North America, Europe, Asia, Latin America, Middle East and North Africa, and Rest of the World): Industry Trends and Global Forecasts, 2023-2035

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# **Abstracts**

The non-viral drug delivery systems market is estimated to reach USD 7.1 billion in 2023 and is anticipated to grow at a CAGR of 13.8% during the forecast period 2023-2035.

In recent years, there has been a significant surge in the demand for more efficient



methods to facilitate intracellular drug delivery within the pharmaceutical landscape. This demand primarily arises from the imperative to target intracellular proteins and enzymes effectively. To meet this need, specialized approaches have gained prominence, notably the utilization of cell penetrating peptides (CPP) and exosome-based drug delivery systems. These sophisticated systems offer a pathway for DNA and gene delivery, thereby presenting promising avenues for targeted drug administration.

Recent advancements in cell biology and drug delivery systems have unveiled opportunities to address therapeutic targets that were previously challenging due to their localization within cell membranes. Intracellular therapies, including gene delivery and mRNA delivery, have emerged as promising alternatives to traditional treatments. The precision in delivering pharmacological substances to their intended physiological sites of action holds pivotal importance in achieving optimal therapeutic concentrations. This precision, in turn, fosters the desired clinical effects while minimizing off-target effects or systemic toxicity.

Studies have indicated that upwards of 20% of the proteome, housing crucial oncogenic proteins, cell metabolism regulators, various components of signal transduction pathways, and enzymes, is situated within the cell membrane. Moreover, considering that only a limited 10% of the human genome can selectively bind to small molecule pharmaceuticals, experts in the field perceive intracellular therapies, particularly gene and DNA delivery, as promising alternatives to conventional treatments.

Furthermore, recent advancements in cell biology and intracellular drug delivery systems have identified numerous potential therapeutic targets spanning diverse clinical disorders. Consequently, the non-viral drug delivery systems market is anticipated to witness robust growth, exhibiting a healthy compound annual growth rate (CAGR) over the forecast period.

#### **Report Coverage**

An executive summary of the insights captured in report. It offers a high-level view of the current state of the non-viral drug delivery systems market and its likely evolution in the short term, mid-term and long term.

Introduction related to non-viral intracellular drug delivery. It also features information on various types of non-viral drug delivery systems, primary applications in healthcare domain. This chapter further features details about the



recent advancements that have been made related to non-viral drug delivery systems.

An overview of the overall market landscape of non-viral drug delivery systems, featuring a comprehensive list of technologies and analysis based on a number of parameters, such as therapeutic portfolio, type of molecule delivered, type of biologic delivered, type of interaction between the vehicle and the payload and type of vehicle used and a detailed analysis based on year of establishment, company size, type of company and geographical location.

An in-depth analysis, highlighting the contemporary market trends, using four schematic representations, including a waffle chart representation, a heat map representation, a vertical stacked column bar chart representation, a vertical column clustered chart representation.

A detailed competitiveness analysis of non-viral drug delivery systems, based on portfolio strength and partnership strength.

Detailed profiles of the prominent companies that offer non-viral drug delivery systems across North America, Europe and Asia-Pacific. Each company profile features a brief overview of the company, details related to non-viral drug delivery technology portfolio, recent developments and an informed future outlook.

An in-depth analysis of patents filed / granted for intracellular drug delivery technologies based on the parameters, such as type of patent, publication year, granted patents, filed patents, patent publication year and type of players, issuing authority, patent focus, patent age and CPC symbols.

Elaborate discussion of the various collaborations and partnerships that have been established in the recent past. It includes a brief description of various types of partnership models such as year of partnership, type of partner, type of partnership, purpose of partnership, therapeutic area, type of payment model, type of molecule delivered, type of biologic delivered, most active players, most popular technologies and regional distribution of partnership activity that have been undertaken in this domain, during the period 2015-2022.

An insightful framework which provides four zone of evaluation and product portfolio matrix based on various parameters such as number of drugs in the



pipeline, number of companies, deal amount, partnership activity, trends highlighted in number of grants, number of publications, google hits and qualitative scoring.

A comprehensive market forecast analysis, highlighting the likely growth of the non-viral drug delivery market, till 2035. In order to provide details on the future outlook, our projections have been segmented on the basis of, type of molecule delivered (small molecules and biologics), type of biologic delivered (antibodies, RNA, DNA and proteins / peptides), type of vehicle used (Cell Penetrating Peptides, Extracellular Vesicles, Oligonucleotides, Nanoparticles and Polymers), target therapeutic area (infectious diseases, oncological disorders, genetic disorders, neurological disorders, hepatic disorders, cardiovascular disorders and other disorders), type of payment model (upfront payments and milestone payments) and key geographical regions (North America, Europe, Asia, Latin America, Middle East and North Africa and Rest of the World).

#### Key Market Companies

Arcturus Therapeutics

**Bio-Path Holdings** 

CureVac

**Entos Pharmaceuticals** 

eTheRNA

Matinas BioPharma

MDimune

**PCI** Biotech



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