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Non-CRISPR Genome Editing Therapy Market: Focus on Zinc Finger Nucleases (ZFNs), Transcription Activator-Like Effector Nucleases (TALENs) and Meganucleases Edited Therapies: Distribution by Type of Payment (Upfront and Milestone Payment) and Distribution by Geography (North America, Europe, Asia-Pacific and Rest of the World): Industry Trends and Global Forecasts, 2022-2035

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Abstracts

The projected value of genome editing therapy market is expected to be valued at USD 0.45 billion in 2022 and is anticipated to grow at a CAGR of 18% during the forecast period 2022-2035.

The groundbreaking isolation of Hind II, the first site-specific restriction enzyme, in the 1970s marked a pivotal moment in the field of biotechnology. This monumental discovery not only represented a leap forward in scientific understanding but also laid the foundation for the manipulation of living organisms at the genomic level. This breakthrough opened up unprecedented possibilities in both basic and applied life sciences. Fast forward to the 1980s, and we witnessed another milestone with the approval by the US FDA of HUMULIN®, the world's inaugural genetically modified medication containing human insulin. This marked a significant step towards harnessing the potential of genetic engineering for therapeutic purposes. Subsequent advancements in DNA modulation technologies, such as Zinc Finger Nucleases (ZFNs), Transcription Activator-Like Effector Nucleases (TALENs), Engineered Meganucleases (EMNs), and Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR), have catapulted genetic engineering and genome editing to the forefront of scientific

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innovation.

These cutting-edge technologies empower researchers to make precise, sequence-specific modifications in various cell types and organisms, revolutionizing the way we approach biological research and medical interventions. While gene editing technologies continue to be extensively explored for fundamental research, their therapeutic potential has become a focal point for select stakeholders within the pharmaceutical and biotechnology sectors. This emphasis is partly attributed to the adoption of surrogate licensing models, providing drug developers with exclusive control over intellectual property, thereby influencing the trajectory of research and development in this domain.

Clinical trials, in particular, are focusing on infectious diseases and oncological disorders. However, noteworthy strides are being made in product candidates targeting hematological, genetic, and neurological disorders, currently in the discovery and preclinical stages. This diversified approach underscores the versatility and expansive potential of gene editing technologies in addressing a spectrum of health challenges.

The burgeoning field has attracted a substantial investment of USD 2 billion, fostering strategic partnerships and setting the stage for sustained market growth anticipated during the forecast period. As we navigate this era of unprecedented scientific advancement, the convergence of biotechnology and medicine holds promise for transformative breakthroughs in healthcare and beyond.

Research Coverage

Key research insights on the current state and future evolution of ZFNs, TALENs, and meganucleases therapies.

An introduction of gene editing, evolution of tools, and details on ZFNs, TALENs, and meganucleases, including their structure, mechanism, advantages, challenges, and future prospects.

Detailed market landscape, analyzing parameters like development phase, target indication, and companies involved in ZFNs, TALENs, and meganucleases therapies.

Eloborated profiles major players in this field, covering company overviews, drug candidates, financial information, recent developments, and future outlook.

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Details on completed and ongoing clinical studies, highlighting trial parameters, active industry players, and trial locations.

Reviews on scientific articles on ZFNs, TALENs, and meganucleases therapies, considering publication year, therapeutic focus, top journals, and authors.

Academic grants awarded for related projects from 2017-2021, including grant details and recipient organizations.

Detailed partnerships in the domain until 2021, encompassing R&D agreements, mergers, acquisitions, and licensing agreements.

Elaborated funding and investments in the field till 2021, categorizing them based on parameters such as grants, venture capital financing, and IPOs.

Detailed analysis on patents filed/granted for ZFNs, TALENs, and meganucleases till 2021, considering patent type, issuing authority, and leading industry players.

Elaborated list of key opinion leaders (KOLs) in the domain, evaluating their expertise based on publications, citations, clinical trial participation, affiliations, and professional network.

A case study on CRISPR/Cas-based therapeutics in various stages of development.

Key Market Companies

Allogene Therapeutics

Bluebird Bio

Cellectis

Cytovia Therapeutics

Iovance Therapeutics

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Precision Biosciences

Sangamo Therapeutics

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Contents

1. PREFACE

1.1. Scope of the Report
1.2. Research Methodology
1.3. Key Questions Answered
1.4. Chapter Outlines

2. EXECUTIVE SUMMARY

3. INTRODUCTION

3.1. Overview of Genome Editing
3.2. Evolution of Genome Editing Tools
3.3. Types of Genomes Editing Tools
3.4. Zinc-finger nucleases (ZFNs): An Overview
  3.4.1. Structure of ZFNs
  3.4.2. Mechanism of Action
3.5. Transcription activator-like effector nucleases (TALENs): An Overview
  3.5.1. Structure of TALENs
  3.5.2. Mechanism of Action
3.6. Meganucleases: An Overview
  3.6.1. Structure of Meganucleases
  3.6.2. Mechanism of Action
3.7. Genome Editing Tools: Advantages and Disadvantages
3.8. Future Perspectives

4. ZFNS, TALENS AND MEGANUCLEASES BASED THERAPEUTICS: MARKET LANDSCAPE

4.1. Pipeline Review: ZFNs
  4.1.1. Analysis by Phase of Development
  4.1.2. Analysis by Biological Target(s)
  4.1.3. Analysis by Delivery Vehicle
  4.1.4. Analysis by Target Indication(s)
  4.1.5. Analysis by Therapeutic Area
  4.1.6. Analysis by Type of Therapy
4.2. Pipeline Review: TALENS

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4.2.1. Analysis by Phase of Development
4.2.2. Analysis by Target Indication(s)
4.2.3. Analysis by Type of Cells
4.2.4. Analysis by Biological Target(s) and Developer
4.2.5. Analysis by Cell / Gene Therapy
4.2.6. Analysis by Type of Therapy
4.2.7. Analysis by Gene Editing Approach
4.2.8. Analysis by Route of Administration
4.3. Pipeline Review: Meganucleases
4.3.1. Analysis by Phase of Development
4.3.2. Analysis by Gene Editing Approach
4.3.3. Analysis by Delivery Vehicle
4.3.4. Analysis by Therapeutic Area
4.3.5. Analysis by Route of Administration
4.3.6. Analysis by Type of Cells
4.3.7. Analysis by Type of Therapy
4.3.8. Analysis by Biological Target(s)
4.4. Non-CRISPR based Gene Editing Therapies: Developer Landscape
4.4.1. Analysis by Year of Establishment
4.4.2. Analysis by Location of Headquarters
4.4.3. Analysis by Geographical Region
4.4.4. Analysis by Company Size
4.4.5. Analysis by Type of Player
4.4.6. Analysis by Gene Editing Technologies

5. COMPANY PROFILES

5.1. Allogene Therapeutics
5.1.1. Company Overview
5.1.2. Drug Portfolio
5.1.3. Recent Developments and Future Outlook
5.2. Bluebird Bio
5.2.1. Company Overview
5.2.2. Financial Information
5.2.3. Drug Portfolio
5.2.4. Recent Developments and Future Outlook
5.3. Cellectis
5.3.1. Company Overview
5.3.2. Financial Information

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5.3.3. Drug Portfolio
5.3.4. Recent Developments and Future Outlook
5.4. Cytovia Therapeutics
5.4.1. Company Overview
5.4.2. Drug Portfolio
5.4.3. Recent Developments and Future Outlook
5.5. Iovance Therapeutics
5.5.1. Company Overview
5.5.2. Drug Portfolio
5.5.3. Recent Developments and Future Outlook
5.6. Precision Biosciences
5.6.1. Company Overview
5.6.2. Financial Information
5.6.3. Drug Portfolio
5.6.4. Recent Developments and Future Outlook
5.7. Sangamo Therapeutics
5.7.1. Company Overview
5.7.2. Financial Information
5.7.3. Drug Portfolio
5.7.4. Recent Developments and Future Outlook

6. CLINICAL TRIALS ANALYSIS

6.1. Analysis Methodology and Key Parameters
6.2. List of Clinical Trials focused on ZFN, TALEN and Meganuclease edited Therapies
6.2.1. Analysis by Trial Status
6.2.2. Analysis by Trial Registration Year
6.2.3. Analysis by Target Disease Indication
6.2.4. Analysis by Trial Phase
6.2.5. Analysis by Study Design
6.2.6. Year-wise Trend of Completed and Recruiting Trials
6.2.7. Analysis by Phase and Patient Enrollment
6.2.8. Analysis by Type of Sponsor
6.2.9. Analysis by Patient Enrollment
6.2.10. Word Cloud Analysis: Emerging Focus Areas
6.2.11. Most Active Players: Analysis by Number of Registered Trials
6.2.12. Analysis by Trial Location

7. PUBLICATION ANALYSIS

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7.1. Analysis Methodology and Key Parameters
7.2. List of Publications focused on ZFN, TALEN and Meganuclease edited Therapies
7.3. Publication Analysis: ZFNs
  7.3.1. Analysis by Year of Publication
  7.3.2. Analysis by Therapeutic Area
  7.3.3. ZFNs: Emerging Focus Areas
  7.3.4. Top Journals: Analysis by Number of Publications
  7.3.5. Top Authors: Analysis by Number of Publications
7.4. Publication Analysis: TALENs
  7.4.1. Analysis by Year of Publication
  7.4.2. Analysis by Therapeutic Area
  7.4.3. TALENs: Emerging Focus Areas
  7.4.4. Top Journals: Analysis by Number of Publications
  7.4.5. Top Authors: Analysis by Number of Publications
7.4. Publication Analysis: Meganucleases
  7.4.1. Analysis by Year of Publication
  7.4.2. Meganucleases: Emerging Focus Areas
  7.4.3. Top Journals: Analysis by Number of Publications
  7.4.4. Top Authors: Analysis by Number of Publications

8. ACADEMIC GRANTS ANALYSIS

8.1. Analysis Methodology and Key Parameters
8.2. List of Academic Grants focused on ZFN, TALEN and Meganuclease edited Therapies
8.3. Analysis by Year of Grant Award
8.4. Analysis by Amount Awarded
8.5. Analysis by Type of Funding Institute Center
8.6. Analysis by Activity Code
8.7. Analysis by Support Period
8.8. Prominent Program Officers: Analysis by Number of Grants
8.9. Word Cloud: Emerging Focus Areas
8.9. Analysis by Type of Grant Application
8.10. Analysis by Funding Institute Center and Support Period
8.11. Popular Recipient Organizations: Analysis by Number of Grants and Amount Awarded
8.12. Popular Type of Recipient Organization: Analysis by Number of Grants
8.14. Popular Type of Recipient Organization: Analysis by Amount Awarded

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8.15. Popular NIH Departments: Analysis by Number of Grants
8.16. Analysis by Study Section
8.17. Analysis by Purpose of Grant
8.18. Analysis by Amount Awarded and Purpose of Grant
8.19. Analysis by Location of Recipients

9. PARTNERSHIPS AND COLLABORATIONS

9.1. List of Partnerships and Collaborations focused on ZFNs, TALENs and Meganucleases editing Therapies
9.2. Analysis by Year of Partnership
9.3. Analysis by Type of Partnership
9.4. Analysis by Year and Type of Partnership
9.5. Analysis by Type of Technology
9.6. Spider Web Analysis: Type of Technology and Type of Agreement
9.7. Analysis by Type of Partner
9.8. Active Partners
9.9. Analysis by Year and Type of Partner
9.10. Analysis by Target Disease Indication
9.11. Analysis by Therapeutic Area
9.12. Most Active Players: Analysis by Number of Partnerships
9.13. Licensing Deals: Analysis by Upfront and Milestone Payment
9.14. Analysis by Technology and Licensing Amount
9.15. Geographical Distribution
9.16. Intercontinental and Intracontinental Agreements

10. FUNDING AND INVESTMENT ANALYSIS

10.1. Gene Editing Therapies- Focus on ZFNs, TALENs and Meganucleases: List of Funding Instances
10.2. Analysis by Year of Funding
10.3. Analysis by Amount Invested
10.4. Analysis by Type of Funding
10.5. Analysis by Year, Type of Funding and Amount Invested
10.6. Analysis by Type of Funding and Amount Invested
10.7. Industry Players: Analysis by Type of Funding
10.8 Analysis by Geographical Regions
10.9. Most Active Players: Analysis by Number of Funding Instances
10.8. Most Active Players: Analysis by Amount Invested

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10.9. Key Investors: Analysis by Number of Funding Instances
10.10. Analysis of Amount Invested by Technology
10.11. Analysis by Amount Invested by Therapeutic Area

11. PATENT ANALYSIS

11.1. Analysis Methodology and Key Parameters
11.2. Patent Analysis: ZFNs
  11.2.1. Analysis by Type of Patent
  11.2.2. Analysis by Publication Year
  11.2.3. Analysis by Type of Patent and Publication Year
  11.2.4. Analysis by Issuing Authority / Patent Offices Involved
  11.2.5. Analysis by CPC Symbols
  11.2.6. Word Cloud: Emerging Focus Areas
  11.2.7. Analysis by Type of Organization
  11.2.8. Leading Industry Players: Analysis by Number of Patents
  11.2.9. Analysis by Patent Age, 2001-2021
  11.2.10. ZFNs: Benchmarking Patent Analysis
  11.2.11. ZFNs: Patent Valuation Analysis
11.3. Patent Analysis: TALENs
  11.3.1. Analysis by Type of Patent
  11.3.2. Analysis by Publication Year
  11.3.3. Analysis by Type of Patent and Publication Year
  11.3.4. Analysis by Issuing Authority / Patent Offices Involved
  11.3.5. Analysis by CPC Symbols
  11.3.6. Word Cloud Analysis: Emerging Focus Areas
  11.3.7. Analysis by Type of Organization
  11.3.8. Leading Industry Players: Analysis by Number of Patents
  11.3.9. Analysis by Patent Age, 2001-2021
  11.3.10. TALENs: Benchmarking Patent Analysis
  11.3.11. TALENs: Patent Valuation Analysis
11.4. Patent Analysis: Meganucleases
  11.4.1. Analysis by Type of Patent
  11.4.2. Analysis by Publication Year
  11.4.3. Analysis by Type of Patent and Publication Year
  11.4.4. Analysis by Issuing Authority / Patent Offices Involved
  11.4.5. Analysis by CPC Symbols
  11.4.6. Word Cloud Analysis: Emerging Focus Areas
  11.4.7. Analysis by Type of Organization

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11.4.8. Leading Industry Players: Analysis by Number of Patents
11.4.9. Analysis by Patent Age, 2001-2021
11.4.10. Meganucleases: Benchmarking Patent Analysis
11.4.11. Meganucleases: Patent Valuation Analysis

12. KEY INSIGHTS ON KOLS

12.1. Analysis Methodology
12.2. Key Parameters / Assumptions
12.3. Analysis by Type of Organization
12.4. Regional Analysis
12.5. Analysis by Location of Headquarters
12.6. Analysis by Current Organization
12.7. Leading KOLs by Roots Analysis Proprietary Scores
12.8. Key Insights on KOLs

13. CASE STUDY: CRISPR / CAS BASED THERAPEUTICS

13.1. CRISPR / Cas based Therapeutics: Clinical Pipeline
13.1.1. Analysis by Therapeutic Approach (In vivo / Ex vivo)
13.1.2. Analysis by Cell Source
13.1.3. Analysis by Cell Type
13.1.4. Analysis by Target Gene
13.1.5. Analysis by Delivery Vehicle Used
13.2. CRISPR / Cas Based Therapeutics: Discovery and Preclinical Pipeline
13.2.1. Analysis by Phase of Development
13.2.2. Analysis by Therapeutic Area
13.2.3. Analysis by Technology Used
13.2.4. Analysis by Therapeutic Approach (In vivo/Ex vivo)
13.2.5. Analysis by Delivery Vehicle Used
13.2.6. Most Active Players: Analysis by Number of Drugs
13.3. CRISPR / Cas based Therapeutics: Developer Landscape
13.3.1. Analysis by Year of Establishment
13.3.2. Analysis by Company Size
13.3.3. Analysis by Geographical Location
13.3.4. Logo Landscape: Analysis by Size and Phase of Development of CRISPR based Therapeutics
13.3.5. Initiatives by Big Pharma Players

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14. MARKET SIZING AND OPPORTUNITY ANALYSIS

14.1. Forecast Methodology and Key Assumptions
14.2. Gene Editing Therapeutics and Technologies, Focus on ZFNs, TALENs and Meganucleases: Information on Licensing Deals
14.3. Global ZFNs, TALENs and Meganucleases based Therapeutics and Technologies Market, 2021-2035
14.4. Global ZFNs, TALENs and Meganucleases based Therapeutics and Technologies Market, 2021-2035: Distribution by Region
  14.4.1. ZFNs, TALENs and Meganucleases based Therapeutics and Technologies Market in North America, 2021-2035
  14.4.2. ZFNs, TALENs and Meganucleases based Therapeutics and Technologies Market in Europe, 2021-2035
  14.4.3. ZFNs, TALENs and Meganucleases based Therapeutics and Technologies Market in Asia-Pacific and rest of the world, 2021-2035

15. APPNEDIX 1: LIST OF FIGURES AND TABLES

16. APPNEDIX 2: LIST OF COMPANIES AND ORGANIZATIONS

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