

MARKET REPORT



Frontier Pharma: Asthma - Identifying and Commercializing First-in-Class Innovation

BioPortfolio
Life Science Healthcare and
Pharmaceutical
Market Research and
Corporate Data



Frontier Pharma: Asthma - Identifying and Commercializing First-in-Class Innovation

BioPortfolio has been marketing business and market research reports from selected publishers for over fifteen years. BioPortfolio offers a personal service to our customers with dedicated research managers who will work with you to source the best report for your needs. Based in the UK, BioPortfolio is well positioned to coordinate our customers' orders sourced from over 50 global report publishers.

We are pleased to present details of this report to assist your buying decision and administrative process. You will find easy-to-use *How To Buy* information on the last page of this document.

We look forward to being of service to you.

If you have bulk and/or recurring requirements, please get in touch - we can liaise with publishers to obtain sample pages and negotiate discounts on your behalf.

Phone: +44 (0)7887 945155 or **Email:** pdb@bioportfolio.co.uk

Frontier Pharma: Asthma - Identifying and Commercializing First-in-Class Innovation

Frontier Pharma: Asthma - Identifying and Commercializing First-in-Class Innovation

Summary

Large and Innovative Pipeline

Analysis has confirmed the asthma pipeline to be highly active, with 252 products in active development across all stages. The range of mechanisms of action employed by these compounds is also highly diverse, especially in comparison to the existing market landscape. More pertinently, the degree and proportion of breakthrough innovations is significant. GBI Research analysis identified 59 first-in-class programs in the asthma pipeline, acting on 43 first-in-class molecular targets, accounting for 23% of all products with a disclosed molecular target and reflective of the high degree of innovation in this indication. This has far-reaching strategic implications for all market participants, as, despite the high clinical trial attrition rate, it is highly likely that many of the first-in-class technologies will reach the market over the coming decade and may transform the clinical and commercial landscape.

Biologics Growing in Prominence in Asthma Treatment

While the current asthma market is almost exclusively dominated by small molecules, which account for approximately 99% (the exception being Xolair), the current asthma pipeline includes 64 biologics, accounting for 24%. Small molecules amount to 178 compounds, equating to 66%.

This highlights both the commercial and clinical appeal of developing drugs of this class, and follows trends seen in other therapy areas, particularly oncology. Xolair (omalizumab), a recombinant humanized anti-IgE monoclonal Antibody (mAb), was the first humanized therapeutic mAb to be indicated for asthma. It was approved by the FDA in 2003 as an add-on therapy for adults and adolescents aged 12 and over, with moderate-to-severe allergic asthma and symptoms not adequately controlled with Inhaled Corticosteroids (ICS).

Xolair is also the only targeted therapy indicated for the treatment of a specific asthma phenotype. Its launch therefore addressed a significant unmet need for personalized therapy in asthma. Approximately 60% of asthmatics have allergic asthma, and may therefore benefit from Xolair treatment. However, only a minority of these patients has moderate-to-severe disease that is inadequately controlled with standard-of-care therapies, and is therefore eligible for treatment. Despite this, the drug has achieved blockbuster status, and although this can be attributed to a high Annual Cost of Therapy (ACoT), it is also reflective of how innovative drug development that targets unmet clinical needs can result in strong commercial outcomes. Indeed, drug developers are now looking to follow this example by developing highly specific biologics aimed at specific patient sub-types with the hope of benefiting previously underserved patients and generating strong revenues. Notable examples are mepolizumab, reslizumab, lebrikizumab and dupilumab, all of which target Interleukins (IL) heavily implicated in the inflammatory response.

A Deals Landscape with Numerous Investment Opportunities

Analysis has confirmed that 52 of the 59 first-in-class products have not been involved in a licensing or co-development deal. Although a number act on targets that are not yet strongly substantiated in terms of their

<https://www.bioportfolio.co.uk/product/25739>
pdb@bioportfolio.co.uk to order

therapeutic potential in asthma in clinical studies, many are supported by promising in vivo and in vitro preclinical evidence, and as such are highly promising asthma therapies. Indeed, breakthrough innovations are highly desirable as an investment option.

However, many deals involving first-in-class products were in early-stage development, whereas advance-in-class and addition-to-class product deals were typically made in late-stage development, indicating significant differentiation. These findings have significant strategic implications for both biotech companies seeking to out-license products and firms with an interest in in-licensing first-in-class products with strong clinical and commercial prospects.

Scope

The report analyzes innovation in asthma in the context of the overall pipeline and the current market landscape. In addition, it analyzes the deals landscape surrounding first-in-class products in asthma, and pinpoints opportunities for in-licensing. The report covers and includes -

- A brief introduction to asthma, including symptoms, pathophysiology, and an overview of pharmacotherapy and treatment algorithms
- The changing molecular target landscape between market and pipeline and particular focal points of innovation in the pipeline
- Comprehensive review of the pipeline for first-in-class therapies, analyzed by of stage of development, molecule type, and molecular target
- Identification and assessment of first-in-class molecular targets with a particular focus on early-stage programs of which clinical utility has yet to be evaluated, as well as literature reviews on novel molecular targets
- Assessment of the licensing and co-development deal landscape for asthma therapies and benchmarking of deals involving first-in-class versus non-first-in-class-products

Reasons to buy

The report will assist business development and enable marketing executives to strategize their product launches, by allowing them to -

- Understand the focal shifts in molecular targets in the asthma pipeline
- Understand the distribution of pipeline programs by phase of development, molecule type and molecular target
- Access a scientific and clinical analysis of first-in-class developmental programs for asthma, benchmarked against non-first-in-class targets
- Access a list of the first-in-class therapies potentially open to deal-making opportunities

Additional Details

Publisher : GBI Research

Reference :

Number of Pages : 67

Report Format : PDF

Publisher Information :

GBI RESEARCH
GLOBAL BUSINESS INTELLIGENCE

BioPortfolio
Life Science Healthcare and Pharmaceutical
Global Market Research and Corporate Data

BioPortfolio
Life Science Healthcare and Pharmaceutical
Global Market Research and Corporate Data

BioPortfolio
Life Science Healthcare and
Pharmaceutical
Market Research and
Corporate Data

**Best Prices
Guaranteed**

bioportfolio.co.uk

Table Of Contents for Frontier Pharma: Asthma - Identifying and Commercializing First-in-Class Innovation [Published by GBI Research]

- 1 Table of Contents1 Table of Contents 21.1 List of Tables 31.2 List of Figures 32 Executive Summary 42.1 Biologics Growing in Prominence in Asthma Treatment 42.2 Market Landscape to Grow in Diversity over Coming Years 42.3 Deals Landscape Offers Significant Investment Opportunities for First-in-Class Products 43 The Case for Innovation in Asthma 53.1 Growing Number of Opportunities for Biologic Products 63.2 Diversification of Molecular Targets 63.3 Innovative First-in-Class Product Developments Remain Attractive 63.4 Regulatory and Reimbursement Policy Shifts Favor First-in-Class Product Innovation 73.5 Sustained Innovation 73.6 GBI Research Report Guidance 84 Clinical and Commercial Landscape 94.1 Disease Overview 94.1.1 Epidemiology 94.1.2 Etiology 104.1.3 Disease Pathophysiology 104.1.4 Disease Symptoms 114.1.5 Diagnosis 114.1.6 Assessment of Disease Severity 124.1.7 Treatment 144.1.8 Treatment Algorithm 144.2 Overview of Marketed Products 164.2.1 Quick-Relief Medication 174.2.2 ICSs for the Maintenance Treatment of Asthma 174.2.3 ICS/LABA Combination Therapy for the Maintenance Treatment of Asthma 184.2.4 Add-on Therapy to ICS or ICS/LABA Therapies for the Maintenance Treatment of Asthma 194.2.5 Conclusion 205 Assessment of Pipeline Product Innovation 215.1 Asthma Pipeline by Phase, Molecule Type and Therapeutic Target 215.2 Comparative Distribution of Programs between the Asthma Market and Pipeline by Molecular Target 265.3 First-in-Class Pipeline Programs Targeting Novel Molecule Targets 266 Signaling Network, Disease Causation and Innovation Alignment 316.1 The Complexity of Signaling Networks in Asthma 316.2 Signaling Pathways, Disease-Causing Mutations and First-in-Class Molecular Target Integration 326.3 First-in-Class Target Matrix Assessment 347 First-in-Class Target and Pipeline Program Evaluation 367.1 Pipeline Programs Targeting Leukotriene A4 Hydrolase 367.2 Pipeline Programs Targeting P-selectin 387.3 Pipeline Programs Targeting Spleen Tyrosine Kinase 397.4 Pipeline Programs Targeting Prostaglandin D2 Receptor 2 417.5 Pipeline Programs Targeting OX40 Ligand 437.6 Pipeline Programs Targeting Interleukin-33 447.7 Pipeline Programs Targeting Interleukin-10 457.8 Pipeline Programs Targeting Mast Stem Cell Growth Factor Receptor 477.9 Pipeline Programs Targeting Bradykinin B1 Receptor 487.10 Conclusion 498 Deals and Strategic Consolidations 518.1 Industry-Wide First-in-Class Deals 518.2 Licensing Deals 538.3 Co-development Deals 578.4 First-in-Class Programs not Involved in Licensing or Co-Development Deals 599 Appendix 629.1 References 629.2 Abbreviations 669.2.1 Expert Panel Validation 679.3 Contact Us 679.4 Disclaimer 67

List Of Tables in Frontier Pharma: Asthma - Identifying and Commercializing First-in-Class Innovation [Published by GBI Research]

1.1 List of Tables

Table 1: Asthma Therapeutics Market, Global, Classification of Asthma Severity in Children of 0-4 Years of Age 12

Table 2: Asthma Therapeutics Market, Global, Classification of Asthma Severity in Children of 5-11 Years of Age 13

Table 3: Asthma Therapeutics Market, Global, Classification of Asthma Severity in Youths ≥ 12 Years of Age and Adults 13

Table 4: Management of Chronic Asthma 15

Table 5: Management of Acute Asthma 16

List Of Figures, Charts and Diagrams in Frontier Pharma: Asthma - Identifying and Commercializing First-in-Class Innovation [Published by GBI Research]

1.2 List of Figures

Figure 1: Innovation Trends in Product Approvals 5

Figure 2: Sales Performance of First-in-Class and Non-First-in-Class Product Post Marketing Approval 7

Figure 3: Asthma, Global Pipeline Overview 22

Figure 4: Asthma, Molecular Target Classes of Pipeline Products 23

Figure 5: Asthma, Molecular Targets 25

Figure 6: Asthma, Molecular Target Category Comparison, Pipeline and Marketed Products 26

Figure 7: Asthma, Comparative Pipeline 27

Figure 8: Asthma, First-in-Class Products in the Asthma Pipeline 29

Figure 9: Signaling Networks of Functional Families in Asthma – Part 1 33

Figure 10: Signaling Networks of Functional Families in Asthma – Part 2 34

Figure 11: First-in-Class Molecular Target Analysis Matrix 35

Figure 12: Leukotriene A4 Hydrolase as a Therapeutic Target 37

Figure 13: Pipeline Programs Targeting Leukotriene A4 Hydrolase 38

Figure 14: P-selectin as a Therapeutic Target 39

Figure 15: Pipeline Programs Targeting P-Selectin 39

Figure 16: Spleen Tyrosine Kinase as a Therapeutic Target 40

Figure 17: Pipeline Programs Targeting Spleen Tyrosine Kinase 41

Figure 18: Prostaglandin D2 Receptor 2 as a Therapeutic Target 42

Figure 19: Pipeline Programs Targeting Prostaglandin D2 Receptor 2 43

Figure 20: OX40 Ligand as a Therapeutic Target 44

Figure 21: Pipeline Programs Targeting OX40 Ligand 44

Figure 22: Interleukin-33 as a Therapeutic Target 45

Figure 23: Pipeline Programs Targeting Interleukin-33 45

Figure 24: Interleukin-10 as a Therapeutic Target 46

Figure 25: Pipeline Programs Targeting Interleukin-10 47

Figure 26: Mast stem Cell Growth Factor Receptor as a Therapeutic Target 48

- Figure 27: Pipeline Programs Targeting Mast Stem Cell Growth Factor Receptor 48
- Figure 28: Bradykinin B1 Receptor as a Therapeutic Target 49
- Figure 29: Pipeline Programs Targeting Bradykinin B1 Receptor 49
- Figure 30: Industry-Wide Deals by Stage of Development, 2006–2014 51
- Figure 31: Industry-wide Deals by Stage of Development, 2006–2014 52
- Figure 32: Asthma, Licensing Deals by Region, 2006–2015 53
- Figure 33: Asthma, Licensing Deals, 2006–2015 55
- Figure 34: Asthma, First-in-Class and Non-First-in-Class Comparison, 2006–2015 56
- Figure 35: Asthma, Licensing Deals by Mechanism of Action, 2006–2015 56
- Figure 36: Asthma, Co-development Deals by Region, 2006–2015 57
- Figure 37: Asthma, Co-development Deals, 2006–2015 58
- Figure 38: Asthma, Co-development Deals by Mechanism of Action, 2004–2015 59
- Figure 39: Asthma, First-in-class Programs with no Recorded Prior Deal Involvement, 2006–2015 60

How to Buy...

Frontier Pharma: Asthma - Identifying and Commercializing First-in-Class Innovation [Published by GBI Research]

Option 1 - Online

Go to our website and pay online with any major debit or credit card:

<https://www.bioportfolio.co.uk/product/25739>

Option 2 - Request a Proforma Invoice

Fill in the details below, and either **Scan** this page **and email** it to us at pdb@bioportfolio.co.uk or **Fax** it to us at +44 (0)1305 791844. We will send you a Proforma Invoice and deliver your report on settlement.

Your Name:

Job Title:

Your Email:

Your Contact Phone:

Company Name:

Address:

Post/Zip Code:

Country:

P.O. Number:

Any Other Instructions:

Pricing Options: (please tick one)

- \$6995** | Single User Price
- \$13990** | Site License Price
- \$20985** | Enterprise License Price

Payment Options: (please tick one)

- Online Credit Card** (we will email you the invoice with a payment link)
- Direct Wire Transfer** (we will email you the invoice with our bank details)

Authorising Signature:

Option 3 - Phone Us on +44 (0)7887 945155

We will be delighted to give you our personal attention.