

# Global Bispecific Antibody Market & Clinical Pipeline Insight 2020

<https://marketpublishers.com/r/G2A67CA05CAEN.html>

Date: July 2016

Pages: 213

Price: US\$ 2,400.00 (Single User License)

ID: G2A67CA05CAEN

## Abstracts

**Please note: extra shipping charges are applied when purchasing Hard Copy License depending on the location.**

With revolutionization in the medicinal sector and more of inclination towards personalized therapy, the medical world is also witnessing the emergence of advanced analogues of monoclonal antibodies called as Bispecific monoclonal antibodies. As the name signifies the molecules possess “dual specificity”.

The licensing of the first monoclonal antibody for clinical use dates back to 1986, since then almost 70 therapeutic monoclonal antibodies (MAbs) have been approved throughout the world along with several antibody-related products (e.g., Fc-fusion proteins) making MAbs and related products a dominant component of the biopharmaceutical market, generating revenues of several billion dollars. The approach and specificity of these molecules is no doubt gaining the interest of numerous scientists, pharma, biotechnological companies, research laboratories as well as academic institutions adding to everyday improvement in the biological, physical, chemical and bio-chemical aspects of its action and functioning making the segment more interesting.

With coming of the new technology and more of research in this segment around 50 different formats of bispecific antibody production have been discovered and patented by big pharma ventures. Production of CrossMabs, Diabodies, Nano bodies, Bispecific T-cell engager antibodies (BiTEs), dual-variable-domain immunoglobulin (DVD-Ig™) are some of the most employed and significant techniques. These molecules two distinct binding specificities also have shown great potential for a wide range of clinical applications which includes targeting agents for in vitro and in vivo immunodiagnosis, therapy and for improving immunoassays. They have proven themselves as promising

molecules for targeting cytotoxic effector cells, delivering radionuclides, toxins or cytotoxic drugs to specific targets, particularly tumor cells. Much more stills needs to be unravelled making this sector a huge matter of interest.

The applications of these molecules are as wide as the approaches of their development. They are being developed to tackle the plethora of diseases ranging from different cancers (Prostate, Breast, Colon, Squamous cell carcinomas) to non-oncological segment including various chronic inflammatory diseases such as Rheumatoid arthritis etc. Their multifactorial approach to deal with a disease is making them for acceptable as a player of future health market as most of the disease are multifactorial and require treatment with a combination of drugs. Development of single molecule with all the desirable approaches is no doubt a great driving factor when seen from patient compliance view.

Moreover, it has been observed that a single molecule can heal more than one disease and nothing more can than this factor make a pharmaceutical venture to invest in Research and Development of this wonder molecule. As developing and patenting a single agent for multiple diseases is for sure a matter of huge profit for them. Following years of research and development (R&D), the first trifunctional antibody Catumaxomab (Removab®) was approved in 2009. Another BsAb Blinatumomab (Blincyto) marketed by Amgen entered the market in December 2014 and several more AMG-110, ABT-122, SAR156597 etc. are in clinical trials.

The pipeline of bispecific antibodies seems to be extremely rich with more than 100 proposed drugs in trials with most of them being in their Preclinical trials. Most of these drugs are propagated to enter the market in the coming 5 to 6 years, occupying a huge segment of health market. The phase is stipulated to swirl the medical world as this will for sure lead to more investments in this direction. The major challenges associated are the monetary restrictions for both the manufacturers as well as the consumers. Everything novel in medical sector comes with a huge price tag and this was proved by extensively costly therapy of Blinatumomab, which costed \$178,000 per two-cycles making it unachievable for the common patients. Other associated challenges include stringent regulatory guidelines, conduction of clinical trials and long duration of research associated.

This report extensively covers the major events from the infancy to the present status of the Bispecific antibodies. It gives a purposeful outlook of the bright future of this wonder molecule which is sure to establish its niche in the coming years; as the abnormalities it is proposed to deal with along with the ways to mitigate them is proportionately too high

to be ignored.

“Global Bispecific Antibody Market & Clinical Pipeline Insight 2020” Report Highlights:

Overview of Bispecific Antibody

Mechanism of Action of Bispecific Antibody

Design & Engineering of Bispecific Antibodies

Applications of Bispecific Antibodies

Global Bispecific Antibodies Clinical Pipeline by Company, Indication & Phase

Global Bispecific Antibodies Clinical Pipeline: 123 Bispecific Antibodies

Marketed Bispecific Antibodies: Blinatumomab (Blincyto) & Catumaxomab (Removab)

## Contents

### **1. HISTORY OF MONOCLONAL ANTIBODIES**

### **2. OVERVIEW OF BISPECIFIC MONOCLONAL ANTIBODY**

### **3. MECHANISM OF ACTION OF BISPECIFIC ANTIBODY**

3.1 Trifunctional Antibody: Catumaxomab (Removab®)

3.2 Blinatumomab

### **4. THE DESIGN & ENGINEERING OF BISPECIFIC ANTIBODIES**

4.1 The Design & Engineering of IgG like Bispecific Antibodies

4.1.1 Quadroma (Hybrid Hydromas) Approach

4.1.2 “Knobs Into Holes” Approach

4.1.3 CrossMab Approach

4.1.4 Dual-Variable-Domain Immunoglobulin Approach

4.2 Small Bispecific Antibodies

4.2.1 Bispecific Diabodies

4.2.2 Bispecific T-Cell Engager Antibodies (BiTEs)

### **5. ADVANTAGE OF BISPECIFIC ANTIBODIES UPON MONOSPECIFIC MONOCLONAL ANTIBODIES**

### **6. APPLICATIONS OF BISPECIFIC ANTIBODIES**

6.1 BsMAb for Diagnosis of Infectious Diseases

6.1.1 Diagnosis of Bacterial Infections

6.1.2 Diagnosis of Viral Infections

6.2 BsMAb for Cancer Diagnostic

6.3 BsAbs Blocking Signaling Pathways

6.4 BsAbs Targeting Tumor Angiogenesis

6.5 Specific Delivery of Effector Compounds to Targets

6.6 Bispecific Antibodies & Gene Therapy

### **7. GLOBAL BISPECIFIC ANTIBODY MARKET OVERVIEW**

7.1 Current Market Scenario

- 7.1.1 Catumaxomab (Removab)
- 7.1.2 Blinatumomab
- 7.1.3 Duligotumab
- 7.1.4 SAR 156597
- 7.2 Global Bispecific Antibodies Clinical Pipeline Overview

## **8. GLOBAL BISPECIFIC ANTIBODY MARKET DYNAMICS**

- 8.1 Favorable Market Parameters
  - 8.1.1 Target Patient Base
  - 8.1.2 Severity Of The Disease
  - 8.1.3 Unavailability Of Completely Curing Drugs
  - 8.1.4 Side Effects of the Existing Drugs
  - 8.1.5 Specificity of Monoclonal Antibodies in Targeting Cancer Cells
- 8.2 Commercialization Challenges
  - 8.2.1 Stringent Regulatory Guidelines
  - 8.2.2 Long Duration of Research & Development
  - 8.2.3 Clinical Trial Timeline
  - 8.2.4 High Cost for Research & Development

## **9. GLOBAL BISPECIFIC ANTIBODY MARKET FUTURE PROSPECTS**

## **10. GLOBAL BISPECIFIC ANTIBODIES CLINICAL PIPELINE BY COMPANY, INDICATION & PHASE**

- 10.1 Research
- 10.2 Preclinical
- 10.3 Phase-I
- 10.4 Phase-I/II
- 10.5 Phase-II
- 10.6 Phase-III

## **11. MARKETED BISPECIFIC ANTIBODIES CLINICAL INSIGHT**

- 11.1 Blinatumomab (Blincyto)
- 11.2 Catumaxomab (Removab)

## **12. DISCONTINUED & SUSPENDED BISPECIFIC ANTIBODIES IN CLINICAL PIPELINE BY COMPANY, INDICATION & PHASE**

12.1 Discontinued

12.2 No Development Reported

### **13. COMPETITIVE LANDSCAPE**

13.1 Ablynx

13.2 Adimab

13.3 Affimed Therapeutics

13.4 Amgen

13.5 AstraZeneca (MedImmune)

13.6 Chugai Pharmaceutical

13.7 Eli Lilly

13.8 EMD Serono

13.9 Emergent BioSolutions

13.10 Genentech

13.11 Genmab

13.12 Immunomedics

13.13 Jounce Therapeutics

13.14 MacroGenics

13.15 Merus

13.16 Neovii Biotech

13.17 NovImmune SA

13.18 OncoMed Pharmaceuticals

13.19 Pieris

13.20 Regeneron Pharmaceuticals

13.21 Roche

13.22 Sanofi

## List Of Figures

### LIST OF FIGURES

- Figure 3-1: Mechanism of Action of Bispecific Monoclonal Antibody
- Figure 3-2: Mechanism of Action of Catumaxomab
- Figure 3-3: Mechanism of Action of Blinatumomab
- Figure 4-1: Types of Approaches to Form IgG like Bispecific Antibodies
- Figure 4-2: Method of Formation of Hybrid Hybridoma
- Figure 4-3: Limitations of Hybrid Hybridoma
- Figure 4-4: Steps involved in “Knobs into Holes” Approach
- Figure 4-5: Three different CrossMabs are Obtained by Three Different Modifications
- Figure 4-6: Method for formation of Dual-Variable-Domain Immunoglobulin
- Figure 4-7: Advantages of Dual Variable Domain Immunoglobulin approach
- Figure 4-8: Types of Bispecific Antibodies
- Figure 5 1: Advantages of Bispecific Antibodies
- Figure 6-1: Applications of Bispecific Antibodies
- Figure 7-1: Global Bispecific Antibodies Pipeline by Phase (%), 2016
- Figure 7-2: Global Bispecific Antibodies Pipeline by Phase (Numbers), 2016
- Figure 7-3: Global Bispecific Antibodies Pipeline by Phase (%), 2016
- Figure 7-4: Global Bispecific Antibodies Pipeline by Phase (Numbers), 2016
- Figure 8-1: Favorable Market Parameters Global Bispecific Antibody Market
- Figure 8-2: Commercialization Challenges for Bispecific Antibody
- Figure 13-1: Ablynx - Clinical Pipeline
- Figure 13-2: Affimed Therapeutics - Clinical Pipeline
- Figure 13-3: Amgen - Clinical Pipeline
- Figure 13-4: EMD Serono - Clinical Pipeline
- Figure 13-5: Emergent Bioscience - Clinical Pipeline
- Figure 13-6: Genmab - Clinical Pipeline
- Figure 13-7: Jounce Therapeutics - Clinical Pipeline
- Figure 13-8: MacroGenics - Clinical Pipeline
- Figure 13-9: Merus - Clinical Pipeline
- Figure 13-10: Novimmune - Clinical Pipeline
- Figure 13-11: OncoMed - Clinical Pipeline
- Figure 13-12: Pieris Pharmaceuticals - Clinical Pipeline
- Figure 13-13: Roche - Clinical Pipeline

## List Of Tables

### LIST OF TABLES

Table 4-1: List of Bispecific Antibodies Formed by Hybrid Hybridoma Method

Table 4-2: List of Bispecific Antibodies Formed by DART

Table 4-3: List of Bispecific Antibodies Formed by BiTE Method

Table 4-4: List of Other BiTEs

Table 6-1: Bispecific Antibodies Targeting Cancer

### COMPANIES MENTIONED

Ablynx

Adimab

Affimed Therapeutics

Amgen

AstraZeneca (MedImmune)

Chugai Pharmaceutical

Eli Lilly

EMD Serono

Emergent BioSolutions

Genentech

Genmab

Immunomedics

Jounce Therapeutics

MacroGenics

Merus

Neovii Biotech

NovImmune SA

OncoMed Pharmaceuticals

Pieris

Regeneron Pharmaceuticals

Roche

Sanofi



## I would like to order

Product name: Global Bispecific Antibody Market & Clinical Pipeline Insight 2020

Product link: <https://marketpublishers.com/r/G2A67CA05CAEN.html>

Price: US\$ 2,400.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

[info@marketpublishers.com](mailto:info@marketpublishers.com)

## Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/G2A67CA05CAEN.html>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:  
Last name:  
Email:  
Company:  
Address:  
City:  
Zip code:  
Country:  
Tel:  
Fax:  
Your message:

**\*\*All fields are required**

Customer signature \_\_\_\_\_

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <https://marketpublishers.com/docs/terms.html>

To place an order via fax simply print this form, fill in the information below and fax the completed form to +44 20 7900 3970