The New Generation of Antibody Therapeutics: Current Status and Future Prospects

Author: K. John Morrow, Jr., PhD

Antibody sales are predicted to reach $50 billion this year. This Insight Pharma Report focuses on recent developments in the therapeutic antibody field and new technologies built on the foundations of previously successful and unsuccessful strategies. Following a review of the business environment and market forces, this report examines:

- The state of the art, and the needs and direction, of antibody technology today
- Antibody conjugates and other payloads: construction, clinical development, and corporate activity
- Multispecific and multifunctional antibodies: construction, clinical development, and corporate activity
- Development of biosimilars and biobetters: commercial and regulatory issues
- Advances in product development technologies and overcoming biomanufacturing challenges
- IP challenges, deal structures, mergers and acquisitions
- Marketed and clinical pipeline products, current status and future forecast
- Strategies, technologies, and pipelines of selected new-generation antibody companies
- Future potential impact of systems biology and nanotechnology
- Strategic issues, economic outlook, and opportunities for future products
- Insights from thought leaders interviewed for this report
The commercial clinical pipeline for antibodies is growing at a rate of 50–55 new mAbs per year. Today, about 314 mAb products are in clinical trials worldwide. The New Generation of Antibody Therapeutics: Current Status and Future Prospects reviews antibodies in clinical development, profiles selected companies that may contribute to the next generation of cutting-edge antibody technology, and discusses notable collaborations within the antibody industry.

A number of immunotoxins currently in clinical trials are antibody-based reagents. As discussed in this Insight Pharma Report, a number of targets, drugs, and linkers are being evaluated. The last few years have seen striking improvements in the development of antibody-drug conjugate technology; it is clear that in the next few years a wave of such products will gain approval. Firms that profess expertise in the synthesis of immunoconjugates are discussed in this report.

Bispecific antibodies present unique possibilities for disease treatment. There is substantial interest in bispecific antibodies as a means to overcome some of the shortcomings of conventional recombinant antibodies that have slowed their successful performance and prevented FDA approval. Today, numerous bispecific antibodies are in clinical trials and may provide a new generation of antibody technologies. This Insight Pharma Report profiles selected bispecific antibody companies and cutting-edge concepts in bispecific antibody development.

The New Generation of Antibody Therapeutics: Current Status and Future Prospects discusses recent developments in bioprocessing relevant to the needs of the antibody sector. Also discussed are biosimilar antibody drugs, which are the subject of much interest with many patent expirations taking place. While the FDA has yet to approve a biosimilar, many large companies have been moving forward aggressively on such products. We review challenges and opportunities, commercial development and the marketplace, as well as regulatory issues concerning biosimilars.

Predictions for the future of cutting-edge antibody technologies are that robust growth will continue despite the many roadblocks and uncertainties in the overall picture of drug development. While the market will continue to be dominated by whole antibody molecules, it is anticipated that bispecific antibodies and antibody-drug conjugates will be a growing component of the overall market.

About the Author
K. John Morrow, Jr., PhD, is a writer and consultant for the biotechnology industry. He obtained his PhD in genetics from the University of Washington in Seattle, and completed his training with post-doctoral studies in Italy at the Università di Pavia and in Philadelphia at the Fox Chase Cancer Institute. He has held faculty positions at the University of Kansas and at Texas Tech University Health Sciences Center. His writings include over 200 peer-reviewed journal papers, non-peer-reviewed coverage of the biotechnology industry, books, and marketing reports. A number of companies, including Meridian Bioscience, Affitech, Henderson-Morley Biotechnology, Brandwidth Communications, and Emergent Technologies have taken advantage of his consultancy services, provided through Newport Biotechnology Consultants. He resides in Newport, KY.

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Certolizumab pegol is a human monoclonal antibody Fab’ conjugated with polyethylene glycol (PEG).

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Cintredekin Besudotox
MR1-1–PE
MEDI547–mcMMAF
CAT-8015–PE
BL22–PE
LMB-2–PE
SS1P–PE
Inotuzumab-Ozogamicin
PSMA ADC/PSMA ADC-Auristatin E
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