Advances in Vaccine Technology and Delivery

Description: A comprehensive 164-page analysis of this fast-growing sector with market projections and extensive company, product and research evaluation of all major vaccine areas.

Key areas addressed by this new January 2010 report...

- Market trends and challenges with projections to 2015 for the major vaccine sectors
- The latest advances in vaccine technologies including DNA vaccines (viral, bacterial, yeast-based and complex DNA) and adjuvants (immune potentiators)
- Novel delivery systems including needle free, liquid jet injectors, solid dose, intranasal, oral and transdermal delivery options
- How a better understanding of immunology is driving the sector
- An assessment of current and future vaccines for viral infections including influenza, hepatitis, HIV and herpes
- Emerging disease, biodefence and parasitic disease targets including malaria, Ebola, dengue fever and West Nile virus
- The issues surrounding effective clinical trial design for vaccines Prophylactic vaccines for cervical and gastric cancer
- Therapeutic cancer vaccine research approaches and vaccines under development for 12 cancer types
- A review of novel therapeutic vaccines in key areas such as diabetes, Alzheimers disease and allergies.
- The vibrant field of vaccine research will continue to grow and evolve over the next few years and to generate ever increasing revenues as new vaccines reach the market.

Unbeatable coverage and analysis of this high growth market sector...
The advances made in immunology over the past two decades, in conjunction with the growing acceptance of the importance of preventive medicine, have given the field of vaccine research a new lease of life. Vaccines for difficult infectious disease targets, such as Neisseria meningitidis Group B and malaria, may become a reality over the next five to ten years. However, for other difficult and important targets such as HIV and cancer the wait for a vaccine may be longer and will rely on the use of new technologies, including plasmid DNA, adjuvants and delivery systems that are currently in the early stages of development.

Vaccines are attracting significant research attention
The increasing use of novel technologies is reflected in the fact that almost half of the current pipeline of prophylactic vaccines against infectious diseases are in preclinical or Phase I trials. These vaccine candidates have largely been developed by smaller companies emerging from academia, such as Vical, Novavax, Acambis, Coley Pharmaceuticals, Crucell and Intercell, and represent future licensing and acquisition targets. Most of the pharma companies with the highest stakes in the vaccines market - sanofi-aventis, Pfizer, Merck & Co, GlaxoSmithKline and Novartis - have extensive pipelines of vaccine candidates in development based on acquired technology and will be vigilant for the opportunities offered by up-coming companies with promising new platform technologies.

Prophylactic vaccines: A high growth market
Our forecasts indicate that the prophylactic infectious disease vaccine market (excluding pandemic H1N1 influenza vaccines) will grow from US$21.4 billion in 2009 to US$36.4 billion in 2015, representing a compound average growth rate (CAGR 2009-2015) of 8%. This growth relies on the approval of vaccines for a number of infectious conditions for which no vaccine is currently available, such as Neisseria meningitidis Group B meningococcal disease.

Influenza: long term impact
The current influenza pandemic has also given the vaccine market sector an enormous boost in terms of revenue over the next few years, as well as future investment. Our forecasts indicate that pandemic H1N1 influenza vaccines will generate US$4.8 billion in 2009 with growth in 2010-11 and sales of these vaccines for a subsequent two year period. This pandemic H1N1 influenza vaccine forecast is subject to a number of uncertainties surrounding the ongoing extent of the pandemic and the response of individual governments to it. Increased funding for new vaccines and their manufacturing methods will change the face of the influenza vaccine market as a whole and increase the number of doses available. However, due to the large investments in expanding manufacturing capacity made by the largest pharma companies over the past few
years, these changes to the overall market are likely to be realised over the next two decades rather than in the next few years.

Cancer Vaccines - when will they deliver on their promise?
In contrast to the prophylactic vaccine pipeline, the pipeline of therapeutic cancer vaccines has a higher proportion of vaccines in late-stage trials. These late-stage products utilise technologies that have not been proven successful to date and have been in development for many years; a relatively high risk of failure remains. However, the knowledge gained from human trials with cancer vaccines has informed, and will continue to inform, the development of the next generation of candidate vaccines that use new technologies to generate improved immune responses and, therefore, clinical responses in cancer patients. We forecast a total therapeutic vaccine market of US$3.7 billion in 2015. These figures are dependent on the approval of Dendreon's Provenge in 2010, which could open up the cancer market to a new therapeutic class known as active cellular immunotherapeutics.

THIS REPORT ANSWERS KEY BUSINESS QUESTIONS...

There are 18 companies developing DNA vaccines - who are they?

Who are the 16 companies involved in developing therapeutic vaccines for indications other than cancer?

Sanofi-aventis and GSK are battling for leadership in the vaccines sector, but what are the prospects for Merck, Pfizer, Sanofi Pasteur/MSD and Novartis?

What patient safety benefits have adenovirus-based vaccines demonstrated in clinical trials?

What are the benefits and challenges for adjuvant vaccine delivery systems and which companies are involved?

What are the prospects for a universal broad spectrum influenza vaccine?

GSK's Synflorix, approved by the EMEA in March 2009, will compete with Pfizer's followon product Prevnar 13 in the pneumococcal sector - what is the rest of the research pipeline looking like and who is involved?

A number of development companies with promising products and pipelines have yet to find a commercial partner or have failed because of financial pressure - who are they and is the time right for big pharma to take a closer look at the investment opportunities that exist?

Why is vaccine development subject to high failure rates and how many new delivery technologies improve development strategies?

About the Author

Dr Cheryl Barton is a highly regarded independent consultant with over 16 years research and business analysis experience. During her senior research positions in academia and seven years with Merck, she was responsible for research projects ranging from Alzheimer's disease to schizophrenia. Dr Barton subsequently joined Dutch investment bank ABN Amro NV as a senior equity analyst where she was lead analyst on major pharmaceutical companies such as Roche and Sanofi-Synthélabo. In 2002 Dr Barton founded a consulting business Pharmavision to provide independent, tailormade, pharmaceutical thematic research to investment houses and pharmaceutical companies.

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