Immunotherapies and vaccines that enhance the immune system represent an active field, as demonstrated by the many different companies developing such products. This report focuses on the application of immunotherapies and vaccines for treatment and prevention of cancer and infectious diseases. This report reviews:

• Major cancers and infectious diseases being targeted by companies working in this field
• Business considerations
• Immunotherapies and vaccines in development for cancer and infectious diseases
• Currently available therapies and vaccines
• The market opportunity and research challenges
The field of therapeutic vaccines and immunotherapies is rapidly emerging as a promising area. Use of passive immunotherapy (i.e., antibody) products, for prevention of infection or for treatment of many diseases, including cancer, is widespread. In addition, some nonspecific immunomodulators on the market are used to treat certain cancers.

However, there is considerable interest in the development of novel, active specific immunotherapies and therapeutic vaccines for cancer. No active specific immunotherapy products have yet reached the market in the United States, but we may be getting close. Progress is also being made in the development of therapeutic vaccines and immunotherapies for treatment of chronic infectious diseases.

**Immunotherapies and Vaccines for Cancer and Infectious Diseases** reviews current pharmacological options for 12 major cancers being targeted by companies developing cancer immunotherapies or vaccines. While a large number of drugs are available for these particular cancers, poor survival rates demonstrate there is a clear need for more effective treatments. We then include a discussion of currently available immunotherapies for chronic infections, and infectious disease vaccines that are on the market.

We consider strategies companies are using to develop cancer immunotherapies and vaccines, as well as different types of infectious disease vaccines, and highlight the R&D challenges for these sectors. A large number of smaller biopharmaceutical companies, and a more limited number of major pharmaceutical companies, are developing a wide range of different approaches to stimulate the immune system.

The many different product candidates that are in development for the 12 cancers targeted in this report are reviewed. In addition, we briefly touch upon the numerous vaccines and immunotherapies that are in development for other cancers.

In our section on infectious disease, we discuss novel prophylactic vaccines that are in development for prevention of a wide range of different diseases. We then focus on therapeutic vaccines and immunotherapies being developed for treatment of chronic infections.

**Immunotherapies and Vaccines for Cancer and Infectious Diseases** examines a number of business considerations and trends in the fields of infectious disease and cancer immunotherapies and vaccines. Interviews with nine experts in this area are provided, giving their perspectives on the progress being made, and the challenges and hurdles faced by researchers and companies working in this emerging field.

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GPCRs: Dawn of a New Era?

Despite their popularity as drug targets, one can easily argue that the pharmacologic potential of G protein-coupled receptors (GPCRs) is far from exhausted. This report explores current and likely consequences of recent advances concerning GPCR x-ray structures, allosteric interactions, multimerization, and functional selectivity; extensively tabulates marketed drugs and compounds in development (arranged by receptor type and subtype); and presents in-depth interviews with recognized experts in the field.

This report also spotlights numerous small pharmaceutical companies, which tend to push the limits of GPCR pharmacology by attacking more targets and by attempting to apply cutting-edge concepts derived from basic research.

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