

Immunotherapies for Cancer – Exciting Growth in New Drugs for Prevention and Cure

Executive Summary:

- **The market for cancer therapies is enormous and market growth of cancer drugs and treatments is significant.** Cancer is a broad category of human diseases characterized by a loss of control over the normal growth of human cells. According to the American Cancer Society, in the U.S. alone, there were nearly 14.5 million children and adults with a history of cancer as of January 1, 2014 and about 1.67 million new cancer cases were estimated to have diagnosed in 2014. Due to this large number of patients suffering from different types of cancer, the market for cancer therapies is enormous and the growth of the market for cancer drugs and treatments is expected to be huge. Hence, remarkable efforts have been made and substantial investments poured into the development of technologies for detection and treatments of cancer. Global spending on cancer drugs and treatments grew at a compound annual growth rate (CAGR) of 5.4% between 2008 and 2013, with U.S. spending in this arena in 2010 and 2012 accounting for 38.5% and 40.5% of the total respectively. GMR Data estimates spending worldwide to reach US\$143.7 billion in 2023, up from US\$91 billion in 2013, representing a CAGR of around 4.7% in this period.
- **Immunotherapy is the future of cancer treatments.** Immunotherapy is a type of targeted cancer therapy, which interacts with selective targeting and other responses within the human body's own immune system to help prevent and fight various types of cancer with minimal side effects. Because of the unique molecular-level targeting that can be achieved in successful immune response, there is fantastic potential for engineered versions to be successful at targeting and treating cancer. Research and development efforts to leverage immune response have become an important part of treating some types of cancer. We believe that immunotherapy will have significant impact on how we prevent and treat cancer in general in the future.
- **Cancer immunotherapy has tremendous market growth potential.** Cancer immunotherapy drugs, which have rapidly gained worldwide acceptance because of its characteristic of killing only cancer cells, accounted for almost 50% of the total oncology drugs market in 2014, generating around US\$41 billion of revenue in that year. It is projected that cancer immunotherapy drugs to be a substantial revenue generator for the biopharmaceutical industry, with estimated total revenue in excess of US\$80 billion by 2020.
- **Risk factors:** Key challenges and risks pertaining to investors involved in companies engaged in the development of immunotherapies for cancer prevention and treatments include (i) price movements of those companies depend heavily on the results of each stage of clinical trials and final regulatory approvals. Consequently, a less-than-positive outcome from a preliminary trial or any initial stage of a trial can significantly change the perception of the risks associated with a company, have a massive impact on its valuation, and subject shares to extreme price volatility; (ii) unlike almost any other sector, the sector dealing with immunotherapies for cancer can have very high hopes and expectations from investors coupled with very large swings in perceived value, and (iii) increased scrutiny over pricing amid overall high cost of drug development, as well as the introductions of competing drugs from peers and competition from other therapies.