

中国基因组学和蛋白组学: 现状, 应用及前景

# Outlook of China Genomics and Proteomics Market

– Application in Molecular Biomarker, Diagnostics and  
Personalized Medicine



## Report Description

It has been well recognized that genomics and proteomics play increasingly important roles in the modern pharmaceutical and healthcare industries. To more efficiently discover drugs, drug companies now increasingly apply these technologies to targeted therapy. Their efforts are leading to the gradual realization of personalized medicines.

On the surface, what drive the gradual realization of personalized medicines are the technologies developed in molecular biomarker and diagnostics. However, it's the genomics and proteomics that directly facilitate the development of new biomarkers and diagnostics. So the bridges that connect the personalized medicines and genomics/proteomics are the molecular biomarkers and diagnostics. Besides, genomics and proteomics are also increasingly employed in development of translational medicines.

It is therefore appropriate to say that genomics and proteomics have become the new frontier research focuses of the entire pharmaceutical industry in the modern era. They are the fundamental and key technologies for modern drug discovery and development, especially for personalized medicines and translational medicines. Effectively utilizing the technologies to discover more effective drugs has become the high priority to every drug company, whether major pharma or small biotech.

In the booming Chinese biotechnology industry, a growing number of Chinese companies are involved in genomics and proteomics research. They are also diligently applying the technologies to developing biomarkers and new diagnostic products. Moreover, the fast growth of the Chinese economy which makes more Chinese people affordable for better healthcare products and the on-going nationwide healthcare reform which makes better insurance coverage readily available to more Chinese residents, also prompt the fast development and growth of the Chinese genomics, proteomics and all related industries.

The fast growth of the Chinese genomics, proteomics and related industries has thus made not only the Chinese market but also the Chinese companies in the industry so attractive to many foreign companies that are interested in seeking partnership for co-developing or marketing their products in China. The current research and service capability of the Chinese companies, their product portfolios and marketing capabilities all have become the concerning points to these foreign companies. In fact, China is also rapidly emerging as an acceptable destination for genomics- and proteomics-related research.

The report, “**Outlook of China Genomics and Proteomics Market – Application in Molecular Biomarker, Diagnostics and Personalized Medicine**”, published by JZMed, Inc, a world renowned market research firm specialized in Chinese pharmaceutical and biotechnology industries, has provided the unique insights into the current development states of the Chinese industry.

The report analyzed, both in depth and in detail, the Chinese industry in all aspects including its current industry size and structural composition, research and technical capabilities in genomics and proteomics, product development capabilities in biomarkers and diagnostics, and portfolio distributions of genomic, proteomic and diagnostic products. With detailed analysis of the current market size of the Chinese industry in each area and comparison with their corresponding global markets, the report provides the clear insights into where each sector of this Chinese industry currently stands in the global landscape.

The report also pointed out the current competitive landscape of the Chinese diagnostic industry including the top players among both domestic and multinational companies. Moreover, with detailed discussion and the classifications of diagnostic products in China, the report also outlined detailed procedures of how to register and market IVD products and medical devices in China.

More importantly, based on the in-depth analysis of a series of growth drivers and resistors that would affect the future development of this Chinese industry, the report depicted a clear picture of what the Chinese industry would look like by 2015, including the future market growth of all sectors and their possible shares in the corresponding global markets.

The report is a must-read book to global pharmaceutical and biotechnology companies that are seeking marketing opportunities in China and collaborating with Chinese biotech companies, venture capital investors interested in investment opportunities in the Chinese biotech industry, market research/consultancy companies seeking the information of the Chinese genomics, proteomics, molecular biomarker and diagnostics industries, and even the government agencies of those countries that are interested in learning the current and future development of the Chinese biotechnology industry.

## Key Findings of the Report

- ◆ It has been well recognized that genomics and proteomics play increasingly important roles in the modern pharmaceutical and healthcare industries. To more efficiently discover drugs, drug companies now increasingly apply these technologies to targeted therapy, that is, the right drug for the right patient given with the right dose. Their efforts are leading to the gradual realization of personalized medicines.
- ◆ In the booming Chinese biotechnology industry, there is a force of about 250 companies that are involved in genomics and proteomics research and their applications in development of biomarkers and diagnostic products. Of these 250 or so biotech companies in China, about 70% of them are founded in recent three to five years. The majority of these companies are located in Shanghai, Beijing, Guangzhou or Shenzhen and their vicinity areas.
- ◆ The rapid development of the Chinese industry is primarily driven by the fast growth of the Chinese economy which makes more Chinese people affordable for better healthcare products and the on-going nationwide healthcare reform which makes better insurance coverage readily available to more ordinary Chinese residents.
- ◆ The fast growth of the Chinese genomics, proteomics and related industries has made not only the Chinese market but also the Chinese companies in the industry so attractive to many foreign companies that are interested in seeking partnership with local companies for co-developing or marketing their products in China. China is now also rapidly emerging as an acceptable destination for genomics- and proteomics-related research.
- ◆ At present the capability of China-based companies in genomics research include the development of reagents for measuring molecular events (such as intracellular pathway, cell signaling and gene expression), development of nucleic acid-based biochips and then integrating them into the next generation diagnostic products, etc. Some companies also provide service for DNA synthesis, pathway profiling of lead compounds, assay development and high content/throughput screening. Their services in proteomics research include protein expression, protein structural determination, molecular cloning for construction of monoclonal antibodies and synthesis of gene vectors, etc.
- ◆ Using their skills and experience in genomics and proteomics, some companies also provide services for target identification and validation to help drug companies elucidate the disease-causing mechanisms. A number of Chinese organizations also possess large genetic databases resulting from genome/proteome sequencing. With their strong capability in bioinformatics, these organizations also provide custom service to outside companies.

- ◆ A growing number of China-based companies also offer diagnostic testing service to support drug discovery and development for pharma and biotech companies. Most companies possess the techniques of quantitative- and real-time PCR-based diagnostic assays. Some also have other techniques such as FISH and high-throughput sequencing, etc.
- ◆ However, based on our survey, so far there has not been any evidence that demonstrates Chinese biotech companies are able to independently develop (including identification and validation) biomarkers to support clinical development. A number of them do, however, possess capability of detecting and analyzing biomarkers. They are currently almost exclusively focusing on analytical service for biomarkers.
- ◆ The largest group (about 50) is those Chinese companies that focus on the development of diagnostic test kits for hospital and/or laboratory use for a variety of diseases such as infections, cancer and diabetes, etc. Most diagnostic products are developed based on the nucleic acid technology for blood testing.
- ◆ It is expected that the Chinese genomics, proteomics and related industries will continue to grow in a fast pace in the future. In addition to the global favorable R&D climate, a number of other factors, both internally and externally, also determine its future growth prospect.
- ◆ Externally, the demands by drug companies from around the world for R&D collaboration with local Chinese companies/research institutions and marketing of their products in the Chinese market will prompt local Chinese companies to enhance their capability in order to meet the demands of the global drug companies. Besides, the experienced multinational companies entering Chinese market and collaborating with local Chinese organizations will also promote both the Chinese industry itself and the capability of the local Chinese companies.
- ◆ Internally, China's advantages in biotechnology industry such as the large well-trained workforce, inherent strengths in genomics and proteomics, support of government and increasing availability of R&D funding from various sources, etc., all will continue to drive the Chinese genomics and proteomics industry forward in the near future.
- ◆ Based on the in-depth analysis of its growth drivers and resistors, we forecasted the future development potential in each sector of the Chinese genomics, proteomics and related industries. We believe that the Chinese genomics and proteomics industry will continue to grow in a CAGR of about 30% in the following five years and the market value could likely reach \$655 M by 2015.

## Key Features of the Report

- ◆ It is the first time that the report conducted a complete survey on the Chinese genomics and proteomics industry. It revealed the current structural composition, industry size and key players of the Chinese industry.
- ◆ Based on the successful survey on the current research and technical capability of Chinese companies in genomics and proteomics, the report also conducted survey on how the technologies are applied to the development of molecular biomarkers and diagnostic products in China.
- ◆ The survey thus revealed a clear picture of the current industry and market composition of Chinese IVD products including who the major players are and what strategies they are employing to develop and market their products in China.
- ◆ Based on the survey results, the report presented the detailed analysis of the current market sizes of the Chinese industry (including their growth history) in genomics and proteomics, molecular biomarker, diagnostics and medical device.
- ◆ The report also conducted in-depth analyses with regards to the overall global R&D climate for genomics and proteomics research and the internal factors that determine the future development of the Chinese industry. Based on the analyses, it thus forecasted how the Chinese industry will likely develop and grow in the following five years or so, what market value of each sector could reach and their possible share in the same sector of the global market.
- ◆ Another key feature of the report is the inclusion of the detailed company profiles of top 100 best players (both domestic and multinational companies) that are involved in genomics and proteomics research and the development and marketing of molecular biomarkers, diagnostic products and medical devices in China. Each company profile contains the detailed description of their technical capabilities, strengths and experience as well as their product portfolios, in addition to their detailed contact information.
- ◆ The report also provides detailed instructions and guide of how to register and market diagnostic products and medical devices in China, including the procedures and documents required for SFDA's approval.

## Your Questions Are Answered

The report provides detailed answers to a variety of questions many professionals are concerned about:

- ◆ How are major pharma companies changing their focus and strategy in their traditional drug R&D approach? What roles do genomics and proteomics play in the modern drug discovery and development?
- ◆ What are the current technical capabilities of Chinese companies in genomics and proteomics research? How are the technologies applied to the development of molecular biomarkers and diagnostic products as well as personalized medicines in China? Who are the current best players in the Chinese industry?
- ◆ What are the current market values of the Chinese genomics and proteomics as well as diagnostic industries? How does the Chinese industry stand in the current global market?
- ◆ What technologies do the Chinese companies currently possess? What new technologies and products are they currently developing?
- ◆ What are the current product portfolios of Chinese companies in genomics, proteomics, molecular biomarker and diagnostics? How will the Chinese government's policies affect the development of the Chinese industry?
- ◆ Who are the multinational companies currently active in the Chinese market? What products are they marketing in China? How does their presence influence the development of the Chinese industry? How are the major pharma companies using the services offered by the local Chinese companies?
- ◆ How will the Chinese industry and market develop in the following five to seven years? How will the emergence of the molecular biomarkers and diagnostics affect the innovative drug research in Chinese drug companies?

## Why You Should Have the Report

- ◆ The report will help you gain a clear view of the entire industry of the dynamically growing Chinese genomics and proteomics industry as well as their related industries including molecular biomarkers, diagnostic products and personalized medicines. It will thus further help you decide what opportunities your company could have in the Chinese market.
- ◆ The report will also give you a clear picture of who your rivals are currently in the Chinese market and what they are doing there. Based on the understanding, it will help you assess the chance and the right strategies of your company to be success in the Chinese market.
- ◆ The report will help you evaluate the possibility for your company to collaborate with Chinese organizations in any of these technical areas.
- ◆ The report will also facilitate your company to formulate a practical China investment strategy in both near term and long term.