Herbalome: Ambitious Attempt to Modernize Traditional Chinese Medicine

The Dalian Institute of Chemical Physics is about to embark on a 15-year effort to identify the active ingredients and toxins in thousands of Traditional Chinese Medicine (TCM). The project named "Herbalome" is led by Dr. Liang Xinmiao with a 45-person team. The expanded Herbalome project would involve researchers at many institutes in China and abroad. This assault on nature's biochemical secrets was reported in an article titled "Lifting the Veil on Traditional Chinese Medicine" and published in the recent issue of Science (February 8, 2008, Vol. 319. no. 5864, pp. 709 – 710).

Dr. Xinmiao Liang recieved his PhD degree on analytical chemistry from Dalian Institute of Chemical Physics in 1992. and worked in the Institute of Ecological Chemistry, GSF-National Research Center for Environment and Health in Germany in 1994. His main research interest is in separation and analysis of complex samples, such as Chinese medicine and environmental samples and the development of related chromatography theory.

TCM's often suffers from uneven efficacy and harsh side effects, prompting critics to assail it as outmoded folklore. Dosages are also hard to pin down, as preparations vary in potency according to where and when herbs are harvested. Quality can vary from manufacturer to manufacturer and from batch to batch. In the modernization drive, quality control is a paramount concern. Herbalome intends to take modernization to a whole new level. Hoping to rebut TCM critics, Herbalome will use high-throughput screening, toxicity testing, and clinical trials to identify active compounds and toxic contaminants in popular recipes.

The main hurdle of TCM is the complexity of the preparations. Faced with such complexity, new methodologies have to be invented. This is the battleground of the Herbalome project. For starters, the team is developing new separation media. Herbs will be parsed into "multi-components": groups of similar constituents. To determine which substances are beneficial or toxic, the team plans to devise Herbalome chips in which arrays of compounds are screened for their binding to key peptides.

The project won a $5 million start-up grant to develop purification methods; the Ministry of Science and Technology is reviewing the project with a view to including it as a $70 million initiative in the next 5-year plan to start in 2010. Herbalome should also be an appeal to pharmaceutical firms, as it could identify scores of drug candidates.

WuXi AppTec: A Step into US

On January 31, 2008, WuXi PharmaTech., China's largest drug research contractor, announced the completion of its acquisition of AppTec Laboratory Services, Inc., a U.S.-based service provider for biopharmaceutical and medical device Industries with three facilities in St. Paul, Philadelphia, and Atlanta. The transaction consideration totals approximately $151 million with the assumption of AppTec debt totaling approximately $11.7 million. The combined business, named WuXi AppTec, will enable WuXi PharmaTech to provide a full service suite of outsourced chemistry and biology services to global pharmaceutical, biotechnology, and medical device clients.

AppTec was founded in 2001 and currently employs about 400 employees at its St. Paul headquarters and at facilities in Philadelphia and Atlanta. The newly formed WuXi AppTec will offer a full-range of in vivo and in vitro preclinical safety evaluation studies, from designing, developing and conducting GLP/GMP testing programs including toxicology, biodistribution/tumorgenicity, drug/device and biocompatibility. AppTec's revenue is expected to range from $70 million to $72 million in 2007.

"We are pleased to have completed this significant acquisition which immediately adds biologics capabilities and expertise to WuXi PharmaTech's existing capabilities, gains a significant U.S. operational footprint for WuXi PharmaTech and expands our U.S. Customer base, with further opportunities to increase our market position," said Dr. Ge Li, Chairman and Chief Executive Officer of WuXi PharmaTech. "This acquisition further solidifies our leadership position as the premier and preferred drug pharmaceutical, biotechnology, and medical device companies."

The acquisition represents one of Chinese company's largest take over of a US firm and reflects a first step WuXi PharmaTech has taken in growing into a leading biopharmaceutical company in the world.

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