

ASIA IS A BUSINESS IMPERATIVE... NOW MORE THAN EVER

ASIAN HEALTH NEWSLETTER

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A bimonthly newsletter of developments in the pharmaceutical, hospital and medical device markets

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INTRODUCTION

We hope that you find the *Asian Health Newsletter* informative. In this issue we examine medical research in China.

BDA is a corporate finance advisory firm which helps multinational clients to identify and to execute acquisitions and JVs in Asia. We focus on the healthcare sector and are well placed to help Western companies structure mutually beneficial transactions with local partners.

If you think that BDA's services may be useful to you, please contact me at pdigiacom@bdallc.com.

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CHINA/HK

China Genetic Ltd, a wholly owned subsidiary of **Hong Kong Pharmaceutical Holdings Ltd** has signed a LOI with **Shanghai De Chang Investment Development Co Ltd** for the purchase of a 57% stake in **Shanghai Hua Xin High Biotechnology Inc** from **Shanghai De Chang** for US\$5.5m. Hua Xin engages in the research, development and sale of biotechnological products. (October 30, 2000)

China Pharmaceutical Industrial Corp has agreed with **Aventis** of France to jointly produce *Essentiale* in both capsular and intravenous forms in China in 2001. Aventis introduced *Essentiale* into the Chinese market in 1993 and claims to have a 30% market share. (October 11, 2000)

Hubei Zenith Airback Pharmaceutical Co, one of the leading producers of hormones in China, has acquired **Hubei Exi Chemical General Plant** to ensure access to Huangjiang, an essential raw material which is cultivated in Exi, Hubei province. Airback will move its raw materials processing facilities to Exi after the acquisition. (October 9, 2000)

Jilin Tonghua Dongbao, China's largest domestic insulin manufacturer, has entered into a 15-year cooperation agreement with **American Gantech International Inc** of the US. Under the agreement, Gantech will invest US\$2m to re-construct Jilin's existing production facilities according to US FDA standards. Jilin will receive the first 20% of profits, while remaining profits will go to Gantech. Jilin manufactures 4,000kg of human insulin per year. (October 23, 2000)

Le Ren Tang Pharmaceutical Factory, a subsidiary of the **Zhongxin Pharmaceutical Group** of China, has formed a JV, **Tianjin Hualong Medical & Health Product Co Ltd** in Tianjin, China, with **Luxembourg Orchid Co**, a subsidiary of the **Hamonie Group** of France. The US\$9m JV will produce astragalus polysaccharide powder injections. (October 23, 2000)

North China Pharmaceutical Co Ltd of China will acquire a 18% equity stake in **Jintan Biological Technology Development Co Ltd (JBT)** from its parent company, **North China Pharmaceutical Group Co Ltd (NCG)** for RMB27m (US\$3.3m). JBT is a JV between NCG and **Maoye Biology Technology Development Co Ltd**. (October 13, 2000)

Nycomed Amersham, a UK-based pharmaceutical company, **Shanghai Huaihai Pharmaceutical Factory** and **Zhangjiang High-Tech Industrial Park Development Co Ltd** of China have begun construction of a pharmaceutical plant in Zhangjiang High-Tech Industrial Park in Shanghai. The US\$34m plant will produce five million bottles of X-ray contrast medium per year and is expected to be onstream by the end of 2000. (October 31, 2000)

Pan-Pacific Pharmaceutical Co of the US has signed a cooperative agreement with **Jintan Biological Technology Development Co Ltd** of China to co-develop an anti-rheumatoid arthritis medicine, **PX3**. The drug may also have potential in the therapy of other autoimmune diseases. (October 12, 2000)

Roche Group of the Switzerland has constructed a new production plant with its partner, **Shanghai New Asiatic Pharmaceuticals Ltd**, in Shanghai to produce vitamin B6. The US\$29m plant will be the largest vitamin B6 plant in China, with a production capacity of 1,000tpa. (October 30, 2000)

Sanjiu Enterprise Group (SEG) and **Sichuan Changzheng Pharmaceutical Shareholding Ltd (SCS)** of China will establish a JV, **Leshan Sanjiu-Changzheng Pharmaceutical Shareholding Ltd** to produce antibiotics in China. SEG is a large conglomerate in China and has acquired 40 domestic pharmaceutical enterprises in recent years. SCS is

one of the 20 largest pharmaceutical companies in China, with revenues of RMB300m (US\$36.2m) (November 16, 2000)

Servier of France has formed a 90:10 JV, **Servier Tianjin Pharmaceutical Co**, with **Huajin Pharmaceutical Factory** in Tianjin. The new JV will produce eight of Servier's products including *Diamicron* for diabetes, *Duxil* for geriatric cerebrovascular disorders, *Acertil* for the treatment of hypertension and *Tatinol* for depression. Servier entered the Chinese market in 1987 and has a 1% market share overall and a 15% market share in its specialty areas of diabetes, cardiovascular drugs and neurology. It invested Euro15M (US\$13m) in the new JV in hope of increasing its revenues in China from Euro27.5m (US\$24m) to Euro68.6m (US\$60m) by 2005. (November 1, 2000)

Tsinghua Unisplendour Group of China has established China's biggest pharmaceutical plant in Yanqing County, Beijing. The new RMB150m (US\$18m) complex is the first to employ transparent construction that will allow visitors to see the production process. The 23 hectare complex will have five assembly lines and 17 workshops. (November 13, 2000)

Zhabei Medicinal Material Co of China and two other Chinese companies, **Jiangsu Wanli Printing Co Ltd** and **Shanghai New TCM**, have merged to form **Shanghai Sine Pharmaceutical Factory**. The factory manufactures pharmaceuticals, TCMs, health supplements and medical devices. It plans to establish a chain of 100 drug stores in China. (October 23, 2000)

INDIA

The Department of Biotechnology of India has formed a strategic alliance with three Indian pharmaceutical companies, **Cadila Pharmaceuticals**, **Shantha Biotech** and **Dabur India** to co-develop and market leprosy, hepatitis and tumor vaccines. Cadila is investing Rup3.5m

(US\$74,600) for the development of *Lprovac*, a leprosy vaccine, while the government will invest Rup10m (US\$213,278). (October 25, 2000)

Dr Reddy's Laboratories Ltd of India will merge with two Indian companies, **American Remedies Ltd** and **Cheminor Drug Ltd** to become the third largest pharmaceutical company in India. Dr Reddy's aims to create eight independent strategic business units including Drug Discovery, Bulk Actives, Branded Formulations, Custom Chemical Synthesis, Diagnostics, Biotechnology and Critical Care. (November 9, 2000)

Glaxo India, the Indian subsidiary of **Glaxo Wellcome Plc** of the UK, has divided into three groups: **Glaxo Pharmaceuticals**, **Glaxo Allenburys** and **Burroughs Wellcome**. It has also restructured its marketing arm to focus on therapies rather than on individual products as the role of specialist doctors in prescribing drugs is increasing. The company has seven business units in the therapy area. (October 25, 2000)

Infar India, the Indian subsidiary of **Akzo Nobel Pharma International BV** of the Netherlands, will merge with **Intercare Ltd** of India. The merger will require the approval of the Calcutta High Court. Infar makes steroid hormones, intermediate phytochemicals, immunodiagnostics and pregnancy kits. The company reported revenues of Rup1bn (US\$21.3m) for the first nine months of 2000. (November 15, 2000)

Sun Pharmaceuticals of India has delayed its plan to move its pharmaceuticals R&D to Chennai due to a lack of funds. The new center will focus on analogue research for new pharmaceutical chemicals and drug delivery systems. Sun has invested Rup400m (US\$8.6m) for the new project and will make further investments prior to completion. (November 28, 2000)

JAPAN

Biacore KK, the Japanese subsidiary of **Biacore International** of Sweden, has been appointed by the

Japanese **New Energy and Industrial Technology Development Organization** to participate in a major national research project to study protein function. The project is sponsored by the Japanese **Ministry of International Trade and Industry**, with a budget of ¥1.34bn (US\$12m) for one year. The project aims to develop new techniques of studying protein function based on human long cDNA and human genome sequence information. (November 20, 2000)

Bristol-Myers Squibb (BMS) of the US is seeking to expand its position in Japan through an acquisition, JV or alliance. It is in discussions with a possible partner in Japan, a market in which it is difficult to gain access. BMS's acquisitions in Japan and Europe might be funded by the cash that is expected to be raised from the planned divestment of its **Clairol** and **Zimmer** businesses, which it no longer sees as core. (November 28, 2000)

Meiji Seika of Japan has entered into a partnership agreement with **North China Pharmaceutical**, China's largest antibiotic maker, to search for new therapeutic substances by studying the structures of Chinese microbial substances. Meiji Seika stated that it is difficult to obtain microbial substances with great potential in Japan and therefore is turning to overseas sources to study the genomics of pathogenic microbial mutants. (November 23, 2000)

Molecular Devices Corp (MDC) of the US has signed an agreement to acquire all of the capital stock of **Nihon Molecular Devices (NMD)**, its Japanese distributor. NMD was jointly established by **JCR Pharmaceuticals Co Ltd** of Japan and MDC in 1995 to import and sell MDC's products in Japan. (November 21, 2000)

Otsuka Pharmaceutical of Japan has launched a *Helicobacter pylori* diagnostic agent, *UbiT*. It is expected that annual revenues will reach ¥5bn (US\$45m) by 2003. (November 20, 2000)

Sanofi-Sythelabo KK (SSKK), the Japanese subsidiary of **Sanofi-Sythelabo** of France, is strengthening its clinical development activities in Japan. The company will also establish an independent marketing system for niche products in Japan and strengthen its relationships with current partners such as **Daiichi**, **Fujisawa** and **Taisho**. In Q3 2000, consolidated

revenues for Sanofi-Synthelabo were up 14.1% to US\$1.3bn, with US\$349.7m of this in Japan. SSKK hopes to increase its market share in Japan from 2.6% to 3% or 4% by 2004. (November 16, 2000)

Schering AG, the German pharmaceuticals company, has launched *Betaferon*, its β -interferon product for the treatment of multiple sclerosis in Japan. The company expects to achieve US\$520m in worldwide sales of *Betaferon* in 2000 after posting revenues of US\$390m in 1999. *Betaferon* is approved in 63 countries, including Canada, the EU and the US. *Betaferon*'s launch in Japan is another step in Schering's strategy to become a market leader in therapeutic drugs in Japan as well as broadening its role in diagnostics. (November 1, 2000)

Takara Shuzo of Japan has won exclusive licensing rights to US-based **Lynx Therapeutics Inc**'s DNA identification technology in China, Japan, Korea and Taiwan. It expects to generate about ¥1bn (US\$9.3m) in revenues from offering gene identification services to Japanese pharmaceutical companies for their drug development programs. (November 10, 2000)

TAP Pharmaceutical Products Inc (TAP), the JV between **Abbott Laboratories** of the US and **Takeda Chemical Industries Ltd** of Japan, has obtained an exclusive license from **Fujisawa Pharmaceutical Co Ltd** of Japan to develop and market *FR229934*, a compound for the treatment of erectile dysfunction. Under the agreement, TAP will develop and market the compound in all countries except China, Japan, Korea and Taiwan. (November 15, 2000)

Viaken Systems Inc, a US company that provides information-management services to the life-science industry, recently signed an agreement with the bioscience subsidiary of **Sumitomo Corp** of Japan, to provide information-management services to Japanese pharmaceutical and biotech companies. (November 28, 2000)

To submit stories to future editions of the *Asian Health Newsletter* please contact Emily Ryder on (44) 20-7655-3753 or via email at eryder@bdallc.com.

KOREA

Cephalon Inc of the US has granted exclusive rights to **Choongwae Pharma Corp** of Korea for the latter to market its product, *Provigil* in Korea. Cephalon discovers, develops and markets drugs to treat sleep and neurological disorders, pain and cancer. Choongwae, a leading pharmaceutical company in Korea, focuses on product research and development. (November 21, 2000)

Green Cross Co of Korea and a North Korean company have jointly built a factory in Pyongyang, Capital of North Korea to produce *Urokinase*, a product that is used for the treatment of cerebrovascular disease. The US\$3m factory will produce 300,000 bottles of *Urokinase* annually worth US\$4.7m. All products will be sold in South Korea. (October 16, 2000)

SK Corp, a leading energy and chemicals company in Korea, has granted a licensing agreement to **Janssen Research Foundation**, a subsidiary of **Johnson & Johnson** of the US. Under the agreement, SK will receive license fees, milestone payments and royalties on the sale of its anti-depressant drugs by Janssen. This is the second licensing agreement between the two companies. (November 21, 2000)

MALAYSIA

Bio-Diagnostic Research Sdn Bhd of Malaysia has formed a JV, **High Returns-MBDR JV Pte Ltd**, with **High Returns Investments Ltd**. The JV will manufacture *Typhidot*, a new test for typhoid. The test is based on the principle of the antigen-antibody reaction. It costs less than a blood culture and importantly, results can be obtained on the day of examination. (October 23, 2000)

Pharmaniaga of Malaysia has formed a JV with **HealthCare International**, the Malaysian healthcare management company. The JV, **PharmaCare Asia**

Holdings, will undertake the management of distribution, logistics, sale and marketing of STG pharmaceutical products and the establishment of managed care organizations throughout Asia. The proposed JV hopes to aid the expansion of Pharmaniaga into Malaysia and to allow penetration of its products into Hong Kong. (October 20, 2000)

in December 2000. TBI has signed an agreement with a Japanese pharmaceutical manufacturer to market the products in Asia. (October 26, 2000)

SINGAPORE

Pfizer, the US-based global pharmaceutical company, opened its first Asian facility in Tuas, Singapore. The US\$340m plant is one of four large projects that was recently secured by **Jacobs Lend Lease (JLL)** in Singapore. Two of JLL's other projects are for **Schering-Plough Corp** of the US, including a sterile filling plant due to be completed in May 2002. (October 19, 2000)

Genzyme Transgenics Corp (GTC), a leader in the application of monoclonal antibodies and other recombinant proteins for therapeutic and biomedical uses has re-acquired the right from Japan's **Sumitomo Metals Industries Ltd** to use its technology in 18 Asian countries. (October 18, 2000)

THAILAND

FOCUS:

Medical research in China

TAIWAN

Orient Europharma Co, a Taiwanese pharmaceutical company has signed an agreement with **Cel-Sci**, an Austrian biotechnology company, to handle the sales and marketing of its cancer treatment, *Multikine* in Hong Kong, Malaysia, Singapore and Taiwan. The drug combats a range of cancers by boosting patients' immune system. In turn, Orient will fund the clinical trials that are needed for government approval in those markets. (November 21, 2000)

Taiwan Advance Bio-Pharm Inc (TBI) has unveiled newly developed testing agents to detect hepatitis B and drug abuse (including *Rohypnol*, speed, morphine, cannabis, and cocaine). TBI was established by **Advance Biotechnology Club Inc** of Taiwan in May 2000 as the diagnostic kit division of the **Development Center for Biotechnology** under the **Ministry of Economic Affairs**. The company plans to launch another new agent that tests for osteoporosis

China has acknowledged the challenges facing its developing pharmaceutical sector and has undertaken several measures to further domestic pharmaceutical research and development. Firstly, the Government plans to open more clinical research centers in order to further the development of both Traditional Chinese Medicines (TCMs) and biomedicines in the next five years. Secondly, the Government has begun to open up its tightly controlled pharmaceutical sector to foreigners. This friendlier regulation has already encouraged several multinational companies to establish R&D and manufacturing facilities in China.

MNCs are also keen to establish R&D operations in China to investigate TCMs. Several US companies, including **Genelabs**, **Paracelsian** and **Anti-Cancer**, are participating in TCM research with Chinese research institutes. This focus details several domestic and international R&D initiatives in China.

Domestic R&D efforts

There are approximately 200 academic institutes and 140 manufacturers carrying out genomic research for the development of biomedicines. To encourage

further R&D, the Chinese Government established ten new clinical research centers in 1999. Each of the centers listed below focuses on research and development of new drugs, specifically in the areas of anti-infection, cardiovascular, anti-tumor and TCM:

- **Beijing University Medical Science (BMU)** – anti-infection pharmaceuticals
- **Medical Center of Fudan University** – cardiovascular and anti-infection drugs
- **Harbin Medical University** – cardiovascular drugs
- **Beijing Union Hospital** – a broad range of pharmaceuticals
- **Fuwai Teaching Hospital of the Beijing Medical College** – cardiovascular drugs
- **Medical Center of Fudan University** – cardiovascular and anti-infection drugs
- **Tumor Hospital of the Beijing Medical College** - anti-tumor therapy
- **Guangzhou University of Traditional and Chinese Medicine and Pharmacology** - TCM
- **Sun Yat-sen University of Medical Sciences** - cardiovascular drugs
- **Xiyuan Hospital** - TCM

Foreign investments in R&D in China

Until recently, most foreign investors have capitalized on China's low-cost manufacturing capabilities, but increasingly these companies are shifting their investment emphasis towards R&D, since China offers well-trained scientists and competitive research at lower costs as well as a looser regulatory regime. The public hostility to genetic research and the prohibitive regulatory red tape associated with medical research in many Western countries is an incentive for medical research to move to China.

China's pharmaceutical R&D, both domestic and foreign invested, should grow at an accelerating rate over the next five years as multinationals realize that China is a large market for commercial opportunities and an attractive site for research. Chinese domestic players will also seek to become not just drug manufacturers but also drug developers. The

following paragraphs highlight the R&D activities of MNCs in China:

Bayer AG recently established an R&D center in Shanghai. The company has already invested in several research centers in China under its healthcare, animal health and polymers divisions. **Bayer Healthcare Shanghai** this year unveiled a new form of hydrotalcite dyspeptic tablet, *Talcid*, developed at BMU in association with **China Digestive Disease Association**.

Chiveya of France will establish a research center, **Chiveya Beijing Pharmaceutical Research Company** in Beijing. Chiveya has ten types of drugs registered in China.

Danish Novo Nordisk (China) Investment Co's R&D center has focused on the development of biopharmaceuticals and has established cooperative relationships with the **Microorganism Research Institute** and **Medical Plant Institute of the Chinese Academy of Medical Sciences**.

Hong Kong Chinese University, Harvard Medical School and **BMU** plan to collaborate on TCM research, including TCM cancer therapies.

Johnson & Johnson of the US has invested approximately RMB50m (US\$6m) in the **Chinese Ministry of Public Health** for the funding of cooperative research projects in China.

Neurotech Development Corp of the US has entered into an agreement with **Zhongshan Hospital** to construct an outpatient and emergency complex, including a research center at a cost of US\$140m.

Novo Nordisk (China) Biotechnology R&D Centre, has commenced research on biopharmaceuticals and industrial enzymes in Beijing, with a total investment of US\$10m.

Nycomed Amersham of the UK is considering moving its genetics research to China. The company

could save up to US\$30m-US\$40m annually by employing 1,000 PhD researchers in China rather than Britain.

Roche Bioscience cooperated with the **Shanghai Institute of Organic Chemistry** in identifying components of TCMs and synthesizing organic compounds. Roche Bioscience has also signed an agreement with the **Chinese Academy of Sciences** for research into gene therapy.

Shanghai Squibb Pharmaceuticals, a subsidiary of US based **Bristol Myers Squibb**, has been conducting research into nutritional supplements, with an emphasis on the prevention of gastric cancers. The company has generated over RMB300m (US\$36m) in profits over the past twelve years in China.

SmithKline Beecham is working with the **National Key Laboratory of Medical Genetics** in Changsha and the **Shanghai Second Medical University/Rui Jin Hospital** in Shanghai to identify molecular mechanisms of disease. **Roche Bioscience** has signed an agreement with the **Chinese Academy of Sciences** for research into gene therapy.

Opportunities for foreign investors

China's entry into the WTO will provide more opportunities for foreign companies to make R&D investments in China. To encourage foreign funded research centers, the Government has provided exemptions from tariffs and surcharges on the import of equipment supporting technology and spare parts that are not available in China. It is also offering concessions on business and income taxes.

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