

China's new drug R&D is steadily advancing

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China appears to consistently lag behind developed countries like the US, Japan, and the nations of Europe in the development of pharmaceuticals, putting China in an embarrassing situation. In fact, China is still dependent on foreign imports for most highly effective cures to major diseases such as cancer, diabetes, hepatitis, and neurodegenerative disease. There is no denying the fact that governmental support, and especially a significant amount of financial support and political assistance to include government restructuring, is needed for the establishment of new drug Research and Development (R&D).

Fortunately, China's authorities have recently recognized the importance of new drug development and have committed to implementing strong measures to help establish new drug R&D. This improvement in the government's status is showing immediate and substantial promise in the field of pharmaceuticals.

On January 4, 2007, a research group directed by Wang Ming-Wei, Head of the National Center for Drug Screening, Shanghai Institute of Materia Medica (SIMM), made a breakthrough in the development of novel category I anti-diabetes drugs with the support of the Ministry of Science & Technology of China, the National Natural Science Foundation (NSFC) of China, and the Shanghai municipal government. Taking almost four years, the group finally developed a non-peptide agonist of small molecule glucagon-like peptide 1 receptors with efficacy in diabetic db/db mice (*Proc Natl Acad Sci U S A* 2007;104:943-948). As an anti-diabetes drug, a peptide hormone traditionally had to be taken as an injection, which greatly limited its clinical application. In contrast, the new compound can be taken orally. This offers hope for the development of a new field of peptidomimetics for orally-available non-peptide small molecules.

Today, the ever-growing prevalence of major diseases worldwide is driving growth in new drug spending, encouraging the marketing of newly developed and efficacious therapies. This achievement appears to have significantly boosted the field of new drug research in China. While "China's pharmaceutical firms lag far behind [their Western counterparts] in terms of biological preparations" "today's achievement, with the attention it has garnered, has important scientific significance and potential social and economic value," said Chen Zhu, the minister of health PRC and also the former associate dean of the China Academy of Sciences (<http://www.simm.ac.cn/News/20071417649.htm>, available as of January 4, 2007).

Other encouraging news came from the Shanghai Life Sciences Institute. A novel anti-HIV compound named Nifeviroc was developed with the support of the municipal government and licensed for clinical trials on April 17, 2007 (*Shanghai Daily*, April 17, 2007). This is expected to become the world's first oral HIV entry-inhibitor. Thus far, applications to patent Nifeviroc have been submitted in 14 countries and regions, including the United States, Japan, and the European Union. Recently, Shanghai Targetdrug Pharmaceutical Company and Avexa, a Melbourne-based drug-research company in Australia, announced that they will jointly develop Nifeviroc for global distribution. Avexa will handle post-research expenses, develop the drug in the international marketplace, and share global profits with Targetdrug.

Thus, China may have justified rationale and confidence to believe that the day will come when China's pharmaceutical products will boast a strong presence in the global market. (Wen-Fang Xu: *Shandong University, Jinan, China.*)