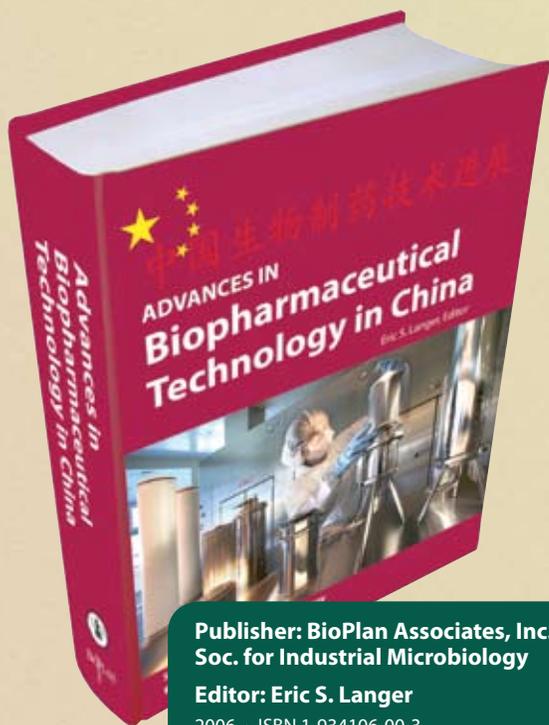


# Advances in Biopharmaceutical Technology in China

## Comprehensive Study of the Science and Business of Biopharmaceuticals in China



**Publisher: BioPlan Associates, Inc./  
Soc. for Industrial Microbiology**

**Editor: Eric S. Langer**

2006 • ISBN 1-934106-00-3

China has one of the fastest growing economies in the world today and its participation on the world economic and political stage is rapidly changing. China's economy is doubling about every 9 years, and the biopharmaceutical industry in China is expanding even more rapidly. With a total population of 1.3 billion and a middle class rivaling the population of the United States, the market for pharmaceuticals in China is expected by many observers to continue to expand. Opportunities to gain efficiencies, and to grow markets exist for organizations able to establish solid business and scientific strategies.

This volume provides an in-depth view of the biopharmaceutical industry in China. It describes the current state of technology, partnership opportunities, and general business practices. Readers are provided detailed case studies to help them analyze these opportunities and identify potential partners in China. The study is a ready reference for all aspects of biopharmaceuticals in China, including basic understanding, detailed technical, scientific and business descriptions, and comprehensive information on all types of organizations involved in biopharmaceuticals in China: companies (state owned or private), foreign entities, universities, and government institutions.

### By the Numbers:

- ✓ 46 Internationally Recognized Authors
- ✓ 23 Peer-Reviewed Chapters
- ✓ 1,228 Pages
- ✓ 15 Translated Chapters and Case Studies
- ✓ 19 Case Studies and China Briefs
- ✓ 380 References
- ✓ Over 2,000 Index Entries
- ✓ Current Database of over 2,000 Chinese Biopharmaceuticals and Diagnostics

**Free!** For a limited time, purchasers also receive a full year license to the **China Biotherapeutics Database**, the only comprehensive English listing of biopharmaceutical products marketed in China.

Includes protein therapeutics, vaccines, recombinant hormones, recombinant growth factors, biotechnology-related diagnostics, and many others. Receive full access to the extensive, on-going coverage.

### What You'll Get:

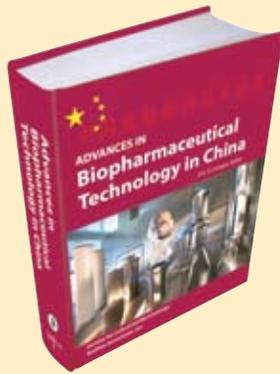
- **Expert, unbiased, analysis:** 46 internationally recognized authors from biopharmas, scientists, economists, VC's, industry analysts.
- **Peer-reviewed:** Sponsored by Society for Industrial Microbiology, editorial and review boards ensure content quality, accuracy, relevance, and substance.
- **Unparalleled access to experts:** Purchasers have unique access to study contributors and authors.
- **Content based on explicit needs of the industry:** Extensive pre-development survey was used to determine study content.
- **Fresh, relevant information:** Subject matter experts combine their in-depth knowledge with current, primary data.
- **Access to Unique Biopharmaceutical Database:** Purchasers receive access to the world's only comprehensive English, online database of Chinese biotherapeutics and diagnostics.

**Abstracts Available!** [www.bioplanassociates.com/china](http://www.bioplanassociates.com/china)



## Table of Contents

- Chapter 1: Introduction: A China Biopharmaceuticals Strategy
- Chapter 2: An Overview of Biopharmaceutical Developments in China
- Chapter 3: China's Healthcare System and the Demand for Biopharmaceutical Products
- Chapter 4: China Pharmaceuticals Market Situation 2006
- Chapter 5: Biopharmaceutical Strategy in China: An Analysis of Innovation, Financing, Talent, and Strategic Considerations Through 2010
- Chapter 6: Biopharmaceuticals in China: A Market, Import/Export, and Financial Review
- Chapter 7: Pharmacy and Drug Administration in China
- Chapter 8: Regulatory Requirements Applicable to Clinical Trials in China
- Chapter 9: FDA Requirements Applicable to Testing and Manufacturing Pharmaceutical Products in China for the U. S. Market
- Chapter 10: Protection and Enforcement of Biopharmaceutical Intellectual Property Rights in China - A Rapidly Evolving System
- Chapter 11: Biopharmaceutical Industry Venture Capital Investment in Mainland China
- Chapter 12: Drug Discovery and Development Partnerships: Outsourcing and Partnering with China
- Chapter 13: Doing Business in China
- Chapter 14: Current Status and Future Prospect of Biogeneric Companies in China
- Chapter 15: Biopharmaceutical Products in China
- Chapter 16: Chinese Bioindustry Parks: Evolution and Growth
- Chapter 17: Organizations in China involved in Biopharmaceutical Research and Manufacturing
- Chapter 18: Life Science and Health Science Education in China
- Chapter 19: Biopharmaceutical Collaborations between Western and Chinese Life Science Organization: Guide to Prospective Partnerships
- Chapter 20: Industrial Technology Developments for Chinese Biopharmaceuticals
- Chapter 21: Therapeutic Proteins in China
- Chapter 22: Vaccines in China: Status of the Chinese Vaccine Industry
- Chapter 23: Biotechnology and Analytical Methods in the Modernization of Traditional Chinese Herbal Medicine
- CHINA Briefs: Chinese Biopharma Industrial Policy, Problems in China's Biological Industry; Distribution Strategies in China; Current Conditions & Predictions; Growth Process; Biogenerics and IP in China; Biopharmaceutical CMOs; Technological Development for Biopharmaceuticals in China



## Author Organizations

### Biopharmaceutical Manufacturers

- Beijing BaiAo Pharmaceutical Co., Ltd.
- Beijing WanTai Biological Pharmacy Enterprise Co.
- National Vaccine & Serum Institute
- Shanghai CITIC GuoJian Pharmaceutical Co., Ltd.,
- Shenzhen Neptunus Interlong Biotechnology Co.

### Venture Capital and Finance

- Fudan University, International Finance
- Shanghai Venture Capital Corp.
- Shanghai Tongji University, Investment Research Institute

### Biopharma—Government and Academic

- China National Center for Biotechnology Development
- China National Development and Reform Commission, Chinese Academy of Macroeconomic Research
- China National Development and Reform Commission, High-Tech Industry Department
- China Pharmaceutical University, College of Life Science and Technology
- Chinese Academy of Social Sciences (CASS), Institute of World Economics and Politics
- Chinese Ministry of Science and Technology, National Advisory Committee for "863 High Technology Program"
- Nanjing University, Department of Biochemistry
- National Institutes of Health (NIH), Office of Technology Transfer
- Peking University
- Shandong University
- Sichuan University, West China School of Pharmacy
- Tsinghua University, School of Medicine

### Management

- 3DBGlobal, Inc.
- Arnold & Porter, LLP,
- BioPlan Associates, Inc.
- Business Monitor International
- CanBiotech
- Chemical Industry Press
- Chiltern International,
- Deacons Hong Kong
- MMD Pharmahe
- Perkins Coie LLP (Los Angeles)
- Shenzhen ZYPH Intelligence Co.
- Strategic Manufacturing Worldwide, Inc.
- TechNova Medical Services



Visit: [www.bioplanassociates.com/china](http://www.bioplanassociates.com/china) for abstracts and purchase information, or call: +1 301-921-9074

BioPlan Associates, Inc. 15200 Shady Grove Road, Suite 202 Rockville, MD 20850, USA • 301-921-9074 • [www.bioplanassociates.com](http://www.bioplanassociates.com)

## Advances in Biopharmaceutical Technology in CHINA

Publisher: BioPlan Associates, Inc.,  
September 2006  
ISBN 1-934106-00-3

### Call for Information on:

- Electronic Copy
- Searchable Database Access
- Multiple Copy Discounts
- Special Discounts

### 5 Easy Ways to Order:

1. WEB ORDER: [www.bioplanassociates.com/china](http://www.bioplanassociates.com/china)
2. FAX THIS FORM: +1 301-926-2455
3. PHONE ORDERS: +1 301-921-9074
4. E-MAIL: [orders@bioplanassociates.com](mailto:orders@bioplanassociates.com)
5. MAIL THIS FORM TO: BioPlan Associates, Inc. 15200 Shady Grove Road, Suite 202 Rockville, MD 20850, USA

### Payment Options

Check enclosed: \$6750 US account, plus \$20 S&H (approx. \$50 Int'l)

Credit card: \$6750, plus \$20 S&H (approx. \$50 Int'l)  Visa  MC  AMEX



Card # \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Exp: \_\_\_\_\_ Card Code: \_\_\_\_\_

Signature: \_\_\_\_\_

*Residents of MD, please add 5% sales tax to all orders*

Name: \_\_\_\_\_

Address: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Postal Code: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ Email address: \_\_\_\_\_