

The Revitalization of BioPharma R&D

Report on The 6th Annual Symposium on Biopharmaceuticals – San Diego Biopharma Conference 2007

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Organized by San Diego Chinese Association (**SDCA**), and co-organized by Sino-American Biotechnology and Pharmaceutical Professionals Association (**SABPA**), The American Chemical Society San Diego Section (**ACS**), and UCSD Technology Transfer and Intellectual Property Services, the **Sixth Annual Symposium on Biopharmaceuticals – San Diego BioPharma Conference 2007** was successfully held on May 19, 2007 at the state-of-the-art conference center of Johnson & Johnson Pharmaceutical Research and Development, LLC in San Diego.

The conference was initiated back in 2002 to strengthen connections between academia and industry, innovation and commercialization. Through the hard work of many volunteers and partners, the conference has surpassed its original goal, and evolved to what it is today as one of the flagship events to showcase innovation, debate strategy, promote collaboration, and cross-pollinate business opportunities.

Dr. **Hui Cai**, board member of SDCA, SABPA, and ACS, and Commissioner of City of San Diego Science & Technology Commission, opened the conference on behalf of fellow conference co-chairs Dr. **Chao Dou** and Dr. **Feng Tian**. She briefed on the event mission, history, and theme of the 2007 conference - “**The Revitalization of Biopharma R&D**”. Dr. Todd Jones, Vice President of Johnson & Johnson Pharmaceutical Research and Development, welcomed audience as the meeting host. The Honorable Mayor Jerry Sanders, City of San Diego, delivered an opening address on the vital importance of life sciences community and events such as the annual symposium to the economic growth of greater San Diego region.

Co-chaired by Dr. **Richards Soll** (CSO, Targegen) and Dr. **Flossie Wong-Staal** (CSO, EVP, Immusol), the morning session presented most recent advances as well as in-depth discussion of selected case studies in six therapeutic areas including immunology, oncology, virology, neurosciences, metabolic diseases, and stem cell

James Edwards, Senior Research Fellow of Johnson & Johnson Pharmaceutical Research and Development discussed in detail the discovery, optimization, and pharmacological properties of non-imidazole antagonists of the histamine H4 receptor. The histamine H4



receptor is the newest member of the histamine receptor family and was disclosed by several laboratories in 2000- 2001. Found primarily on eosinophils, mast cells, and dendritic cells, the histamine H4 receptor is distinct from the other histamine receptors not only in sequence but also expression pattern, and serves as a novel target for **anti-inflammatory** drug discovery.

Richard Heyman, Senior VP of Kalypsys reported on the identified and characterization of a potent, selective PPAR δ ligand in multiple animal models of metabolic syndrome. In diabetic models, PPAR δ activation results in an increase in energy expenditure leading to a robust improvement in insulin resistance and lipid metabolism. Kalypsys developed a mouse model of metabolic NASH that resembles many features of the human disease. The data suggest that PPAR δ selective ligands hold significant promise in treating risk factors associated with metabolic syndrome.

Presentation from **Zhi Hong**, Senior VP of GlaxoSmithKline, provided an educational account on efforts against emerging **viral diseases**. Dr Hong declared that “we are living in a small and dangerous world”, and that the major challenges for the 21st century are cure, vaccination and eradication of chronic viral illnesses, and rapid diagnosis, development of resistance tests and novel medicines for life-threatening acute infections. In developing antiviral therapies, the original approach of targeting the virus directly has been safe, but has not necessarily yielded cure, and has been faced with the emergence of drug-resistant strains. Hence another strategy has been employed, which corresponds to targeting the host itself, for example, via immunotherapeutics. In addition, disease modification and prevention are being carried out using T-cell-based vaccines.

Jeffrey McKelvy, President and CTO of Avera Pharmaceuticals, reviewed the current outcomes and future perspectives of **neuroscience therapeutics**. With the huge markets for neurotherapeutic drugs - about \$40 B annually world wide for psychotropic drugs alone, the pressing questions are: how successful are we currently in pharmacological management and are we innovating

improvements in therapy? McKelvy used the area of psychotropic drugs as an example, and pointed out important issue is the source of data on treatment outcomes. The government has generated data on drug performance which was obscured by the approach of major pharmaceutical companies to establish a single large market. These data point to subpopulations of patients which are probably pharmacogenetically defined. In turn this provides a basis for innovative approaches to improve treatment response by co-therapy with new pharmacologic approaches based on advances in basic and clinical neuroscience research.



Challenge in **oncology** drug development in an era of difficult exit strategies were discussed by **Charles Theuer**, President & CEO of TRACON Pharmaceuticals. TRACON's strategy is to form partnerships with academic entities and companies

that have interesting candidate molecules in late preclinical or early clinical development. TRACON also acquires assets that complement the current standard of care. Thus, the firm has an outsourcing-driven business model, which helps cut costs and time involved in drug development. TRACON's pipeline include mAb-based drugs TRC-105 and D93, and TRC102, a first in class small molecule inhibitor of the base excision repair pathway of chemotherapy resistance, and



Novocell President & CEO, **Alan Lewis**, noted that **Stem cells** may be obtained from a variety of sources and hold great potential to cure many diseases. Novocell's goal is to develop a renewable source of specialized cells that can be used to treat degenerative diseases. The company is uniquely positioned to exploit stem cell engineered product opportunities using its proprietary cell encapsulation platform. The company's human stem cell and cell encapsulation technology platforms will allow transplantation of large numbers of patients without the use of chronic immunosuppression. In addition, the ability to culture and engineer hESCs provides Novocell with a new drug discovery platform that will allow the discovery of small molecules and biologics for treating diseases such as diabetes and cancer.

The after panel discussion focused on **Strategies to Reinvent R&D Business Model**. Moderated by Dr. **John Kozarich**, Chairman and President of ActivX Biosciences and Chairman of Ligand Pharmaceuticals, it brought together a highly distinguished panel to engage in dynamic debates and discussions among themselves and with audience on strategy issues essential to the drug discovery and development process, as well as processes and tools that nurture innovation and efficiency in research and development. Speakers includes **David Lin**, Senior Consultant, Biologics Consulting Group, **John L. Higgins**, President and CEO, Ligand Pharmaceuticals, **Kleanthis G. Xanthopoulos**, Managing Director, Enterprise Partners Venture Capital, **Michael LaBarre**, VP of Product Development, Paramount Biosciences, and **Stephen Chang**, President and CEO, MultiCell Technologies, Inc.

The 2007 San Diego BioPharma Achievement Award recognized Dr. **Roger Y. Tsien**, Investigator of the Howard Hughes Medical Institute, and Professor in the Departments of Pharmacology and of Chemistry & Biochemistry at UC San Diego. His fascination with colors has revolutionized the fields of cell biology and neurobiology by allowing scientists to peer inside living cells, watch the behavior of molecules in real time, and gain a better understanding of signaling inside individual living cells, in neuronal networks, and in tumors.

This full-day event was generously supported by over 20 corporate sponsorships, and attended by over 400 professionals from more than 100 companies and institutions. Special thanks go to speak-

ers, committee members, volunteers, WTI, and UCSD Rady School of Management for their enthusiastic support and contribution. It is the collective efforts that have brought the program to where it is today!

We look forward to welcoming you to the 7th Annual Symposium in 2008 when SABPA will be the proud lead organizer, supported by SDCA, ACS, and UCSD TechTIPS!

Conference website: <http://www.sdcausa.org/web/pages/science/sym2007/MT2007.htm>



About the author: Dr. Hui Cai received her B.S. and M.S. from Peking University, and Ph.D. in Chemistry in 1999 from The Scripps Research Institute, where she worked under the guidance of Professor Dale Boger. She then joined Johnson & Johnson Pharmaceutical Research and Development, L.L.C. in San Diego, working on small molecule drug discovery programs targeting immune mediated inflammatory diseases. She is a co-author and co-inventor to over thirty scientific publications and issued or pending patents.

Dr. Cai is a commissioner at City of San Diego Science and Technology Commission. She also serves as a board member of Sino-American Biotechnology and Pharmaceutical Professionals Association (SABPA), the American Chemical Society San Diego Section (ACS San Diego), and was former President of San Diego Chinese Association (SDCA).

Dr. Cai is attending the Rady School of Management of UC San Diego as a DLA Piper - Athena FlexMBA Scholar, and expects to receive her MBA in summer 2007.