Sanford-Burnham's disease deals

By Chris Cain, Staff Writer

Over the past five years, the **Sanford-Burnham Medical Research Institute** has taken steps to position itself more like a disease-focused biotech than a not-for-profit research organization. The strategy is starting to pay dividends, as the institute has announced two partnerships—with **Johnson & Johnson** and **Takeda Pharmaceutical Co. Ltd.**—in the past two months.

Infrastructure building has been a primary area of focus for Sanford-Burnham. The institute now oversees 31 technology facilities located at its two largest campuses in La Jolla, Calif., and Orlando, Fla. These “research cores” give researchers access to a wide range of resources, including structural biology tools, genomics technology, imaging analysis and drug screening. The equipment in these facilities is operated by full-time support staff whose primary job is to assist in the advancement of projects proposed by any Sanford-Burnham-affiliated lab.

The largest of the research cores is the Conrad Prebys Center for Chemical Genomics (CPCCG), which opened in 2005 to conduct high throughput screening of small molecules. Resources of the CPCCG include an in-house library of drug-like compounds and robots for phenotypic screening that monitor how drugs affect complex cellular processes such as neuronal outgrowth or intracellular lipid accumulation.

CPCCG is one of four comprehensive centers in the Molecular Libraries Probe Production Centers Network, an NIH-funded initiative that in 2008 provided \$97.9 million to Sanford-Burnham over 6 years for performing high throughput screening studies that were proposed in NIH-solicited grants.

The three other centers are located at the **Broad Institute of MIT and Harvard**, **Scripps Florida** and the **NIH Chemical Genomics Center**.

In addition to improving its compound discovery capabilities, in 2009 Sanford-Burnham accessed a new segment of the drug development value chain. The institute and **Florida Hospital** formed the **Translational Research Institute for Metabolism and Diabetes**, a joint venture that gives Sanford-Burnham access to patients in the clinic, a key resource for an institute that previously operated without a medical center partner.

Also that year, Sanford-Burnham brought in industry veterans Paul Laikind and Michael Jackson to fill two new positions—chief business officer and VP of drug discovery and development—with the goal of translating the institute's scientific findings into therapeutic discoveries in collaboration with industry partners.

Laikind most recently was cofounder and CEO of Metabasis Therapeutics Inc., which was acquired by **Ligand Pharmaceuticals Inc.** in 2009. Jackson is a former VP of drug discovery at Johnson & Johnson Pharmaceutical R&D, a subsidiary of J&J.

Mutual understanding

Laikind said the institute now operates more like a biotech than many universities because its researchers focus on projects with clear relevance to human disease and are provided with support centers that can run necessary screens or perform structural studies that would otherwise be outside of a lab's comfort zone.

Jackson had previously worked with Sanford-Burnham from the J&J side as part of a smaller collaboration focused on new targets in inflammation. He said he was impressed by Sanford-Burnham's high-content screening capabilities, which he described as more advanced than what he had previously worked with in industry.

He also told *SciBX* that he was concerned about pharma's level of dedication to early stage drug discovery and joined Sanford-Burnham because he saw the “capacity, capability and passion to identify novel compounds against novel targets.”

Sanford-Burnham is seeking highly collaborative partnerships in which its researchers and industrial partners focus on ambitious goals in specific therapeutic areas regardless of their development stage, said Laikind.

He contrasted this with the broader partnering approach taken by **The Scripps Research Institute**. In 1997, a 10-year, \$200 million agreement between **Novartis AG** and Scripps gave Novartis first option rights on 47% of Scripps' medical discoveries.¹ In late 2006 Scripps signed a similarly structured 5-year, \$100 million agreement with **Pfizer Inc.** Laikind said that in these cases, the partner retained an option to projects once they reached a certain stage without a requirement for collaboration.

Laikind said the logic behind focusing on specific disease areas is to ensure that partners have a vested interest in taking projects into the clinic. He suggested that direct contact between two teams of specialists working toward a specific goal would be more efficient than a broad collaboration in which there might be less incentive for any individual project to succeed.

In January, Sanford-Burnham signed its largest deal, a three-year partnership with the Ortho-McNeil-Janssen Pharmaceuticals Inc. unit of J&J to develop therapeutics against new targets in Alzheimer's disease (AD) and other neuropsychiatric disorders.

J&J will pay upfront and yearly access fees and will fund discovery research. The pharma will have an exclusive option to review and support Sanford-Burnham projects in the areas of AD and neuropsychiatric diseases and thereby will have the right to license resulting IP. Candidate projects will be reviewed by a joint steering committee and then further developed in part by a J&J-funded drug discovery team within the CPCCG.

Sanford-Burnham said the partnership could provide funding to the institute that exceeds the amount of the deal announced between Pfizer

and the **University of California, San Francisco**, which was reportedly \$85 million, but Sanford-Burnham declined to disclose further details.

If the pharma chooses not to develop a project that originated at the institute, Sanford-Burnham will retain all rights to it.

Laikind told *SciBX* that “Sanford-Burnham’s goal in the J&J deal is to develop somewhere in the neighborhood of 6–12 projects a year, looking to identify a mix of novel targets and novel compounds, with a focus on small molecule discovery. Projects will range from the target identification to lead identification and optimization stage.”

“What J&J brings to this partnership is their drug optimization and clinical expertise,” added Jackson. “They are well equipped to perform toxicology, pharmacokinetic and pharmacodynamic studies that will move lead candidates to IND stage.”

The J&J deal follows a December 2010 deal between Sanford-Burnham, the Translational Research Institute for Metabolism and Diabetes and Takeda to discover and evaluate new therapeutic approaches to obesity. The two-year agreement grants Takeda access to data from subjects at the Translational Research Institute, where Takeda and Sanford-Burnham researchers will use genomic and metabolic profiling to identify pathways that may serve as therapeutic targets or biomarkers for obesity.

Financial details were not disclosed.

Laikind told *SciBX* the institute hopes to engage in further collaborations in additional disease areas. One notable area in which Sanford-Burnham lacks a corporate partner is oncology, which Jackson said makes up more than 50% of the research at the institute.

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1. Usdin, S. *BioCentury* 2(33), A3–A4; May 23, 1994

COMPANIES AND INSTITUTIONS MENTIONED

Broad Institute of MIT and Harvard, Cambridge, Mass.

Florida Hospital, Orlando, Fla.

Johnson & Johnson (NYSE:JNJ), New Brunswick, N.J.

Ligand Pharmaceuticals Inc. (NASDAQ:LGND), San Diego, Calif.

National Institutes of Health, Bethesda, Md.

National Institutes of Health Chemical Genomics Center, Bethesda, Md.

Novartis AG (NYSE:NVS; SIX:NOVN) Basel, Switzerland

Pfizer Inc. (NYSE:PFE), New York, N.Y.

Sanford-Burnham Medical Research Institute, La Jolla, Calif.

Scripps Florida, Jupiter, Fla.

The Scripps Research Institute, La Jolla, Calif.

Takeda Pharmaceutical Co. Ltd. (Tokyo:4502), Osaka, Japan

Translational Research Institute for Metabolism and Diabetes, Winter Park, Fla.

University of California, San Francisco, Calif.