Scripps looks outward

By Chris Cain, Senior Writer

The Scripps Research Institute has borrowed a page from the VC playbook and formed a separate corporation called **Scripps Advance LLC** that will house assets and IP related to discrete early stage research projects. The goal is to attract pharma investment in translational assets. **Johnson & Johnson's** California Innovation Center is on board as Scripps Advance's first partner.

Two years ago Scripps decided to move away from the institute-wide option agreements it previously maintained with pharma companies including **Pfizer Inc.** and **Novartis AG**.¹

At the time, Scripps said that this was because the pacts did not have clearly defined aims and were not bringing enough compounds or technologies to market.

The institute instead has focused on deals that are limited to specific therapeutic areas. In 2013 Scripps partnered with **Takeda Pharmaceutical Co. Ltd.** to identify new compounds for neurological and psychological diseases and with the Janssen unit of J&J and the **Crucell Vaccine Institute** on infectious disease projects.

Scripps Research Institute VP of business development Scott Forrest told *SciBX* that in lieu of another big partnership, "a better way to do this has been to have more focused deals that are strategically aligned between both parties. These partnerships have been thematically consistent in that we jointly negotiate a work plan before they are even started."

Forrest said that the next step was to identify specific research projects that could be attractive to pharma. To facilitate this, Scripps created a separate business entity to make the investment more flexible from an accounting standpoint.

"By structuring Scripps Advance as a separate LLC that can do the sourcing and management and house the IP of a project in a subsidiary company, this allows you to switch the investment onto the balance sheet of a pharma instead of their profit and loss [statement]," said Forrest.

He pointed to **Arteaus Therapeutics LLC** as an example of this structure. The company was launched in 2011 by **Atlas Venture** and **OrbiMed Advisors LLC** to in-license and develop LY2951742, an antibody targeting calcitonin gene-related peptide (CGRP) from **Eli Lilly and Co.** After the compound met the primary and secondary endpoints in a Phase II trial to prevent recurring migraines, Eli Lilly reacquired the antibody.²

"VCs have been hip to this game for a little while now. Academic groups have watched it, noodled with it, but not attempted it in a robust fashion," Forrest said.

To develop chemical matter against targets, Scripps Advance will rely on its **Scripps Florida** molecular screening center, one of four large centers that were funded by the **NIH** molecular libraries program.

Forrest said that the capabilities of the Florida center will allow it to

advance projects both from within Scripps and from other institutions that do not have access to such a center.

Thorsten Melcher, senior director for new ventures and partnerships at the J&J California Innovation Center, told *SciBX* that the pharma decided to partner with Scripps on the strength of the molecular screening center and Scripps' willingness to look outside for partners.

"Scripps Florida has chemistry and DMPK [drug metabolism and pharmacokinetics] capabilities not typically associated with an academic institution," said Melcher.

J&J's financial contribution to Scripps Advance is undisclosed. A joint steering committee made up of representatives from Scripps and J&J will identify projects to pursue. Todd Huffman, head of new ventures at Scripps and president of Scripps Advance, said that projects will receive seed funding from Scripps Advance.

Scripps Advance hopes to partner with two to three additional pharmas.

Lockdown

The first company launched by Scripps Advance is **Padlock Therapeutics Inc.**, which is developing inhibitors of peptidyl arginine deiminase (PADI; PAD).

The company was cofounded by Huffman; Paul Thompson, an associate professor of chemistry at Scripps Florida; and Kerri Mowen, an assistant professor of chemical physiology at Scripps Florida.

Atlas executive-in-residence and Padlock CEO Michael Gilman told *SciBX* that the company is focusing on the role of PADs in producing autoantigens in autoimmune diseases.

PADs act on arginine residues in proteins to produce citrulline, and antibodies targeting citrullinated proteins have been associated with autoimmune diseases including lupus and rheumatoid arthritis (RA).

In a 2013 article in *The Journal of Clinical Investigation*, Thompson showed that inhibiting PAD activity could improve endothelial dysfunction and reduce thrombosis risk.³ In a 2014 paper in *ACS Chemical Biology*, Thompson's lab, in collaboration with the Scripps molecular screening center, described compounds that inhibit PAD by locking the enzyme in its inactive apo conformation.⁴

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3. Knight, J.S. *et al. J. Clin. Invest.* 123, 2981-2993 (2013)
4. Lewallen, D.M. *et al. ACS Chem. Biol.* 9, 913-921 (2014)

COMPANIES AND INSTITUTIONS MENTIONED

Atlas Venture, Cambridge, Mass.
Crucell Vaccine Institute, Leiden, the Netherlands
Eli Lilly and Co. (NYSE:LLY), Indianapolis, Ind.
Johnson & Johnson (NYSE:JNJ), New Brunswick, N.J.
National Institutes of Health, Bethesda, Md.
Novartis AG (NYSE:NVS; SIX:NOVN), Basel, Switzerland
OrbiMed Advisors LLC, New York, N.Y.
Padlock Therapeutics Inc., Cambridge, Mass.
Pfizer Inc. (NYSE:PFE), New York, N.Y.
Scripps Advance LLC, Jupiter, Fla.
Scripps Florida, Jupiter, Fla.
The Scripps Research Institute, La Jolla, Calif.
Takeda Pharmaceutical Co. Ltd. (Tokyo:4502), Osaka, Japan