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Innovimmune Pursues Pharma Partners, Shuns VCs

Arlene Weintraub, 8/7/12

When Anderson Gaweco started his biotech company in New York in 2010, he planned to follow the standard entrepreneurship blueprint-for-success and pursue venture capital financing. But the more Gaweco learned about the two compounds his company had developed to treat autoimmune and inflammatory diseases, the more convinced he was he didn't need VC financing. "We are ready for pharma partners right now," Gaweco says.

Biotech-Big Pharma partnerships are not uncommon in life sciences these days. Pharma companies need to bolster their pipelines with innovations from biotech startups, and the startups need the cash to help turn those inventions into marketable drugs. But usually biotech entrepreneurs wait until they have compelling data—from early-stage human trials, or at least from animal studies—before they try to convince any deep-pocketed partner to take a bet on them.

Not Innovimmune. Gaweco's startup is looking for pharma partners even though it hasn't locked up its patent portfolio or even completed animal trials of its two drug candidates. In industry parlance, it is "pre-IND," meaning it hasn't yet filed an "investigational new drug" application with the FDA to begin human trials. That means Innovimmune is counting on a partner to sign on before it has any hint of whether its drugs might work in people.

So why is Gaweco so confident? The answer lies in the company's two lead programs. The first drug, called INV-17, is in an emerging class of compounds called ROR-gamma modulators. ROR-gamma (retinoid-related orphan receptor-gamma) is a receptor inside the nucleus of cells that regulates the production of proteins that have been implicated in several inflammatory and autoimmune diseases, including rheumatoid arthritis, lupus, and multiple sclerosis. Unlike most treatments for these diseases, which are injections, INV-17 is a small molecule, which means it could be taken as a pill.

Innovimmune's second compound, INV-88, is also a pill. It inhibits a second protein important in inflammatory and autoimmune diseases called MIF (macrophage migration inhibitory factor). On June 13, Innovimmune won a $600,000 Advanced Technology Small Business Innovation Research Grant from the National Institutes of Health to fund its MIF research.

Both MIF and ROR-gamma have been hot targets in pharma for a while, Gaweco says, but what sets Innovimmune's approach apart from the competition is its approach to drug design. While most companies take existing compounds and run them through high-throughput screening machines to see if any of them hit the desired targets, In-

novimmune designs chemical compounds from the ground up to hit those targets in the most desirable ways. For example, Innovimmune discovered certain binding points on MIF and then designed a small molecule that can specifically home in on those points, Gaweco says. He believes that will help boost INV-88's potency while lessening the chances it will produce untoward side effects.

A rash of early-stage deals in life sciences has boosted Gaweco's confidence that he, too, should be able to nab some lucrative partnerships. In March 2011, Plymouth, MI-based Lycera signed a $300-million-plus deal with Merck (NASDAQ: MRK) to develop ROR-based compounds for autoimmune diseases. And last December, Pfizer (NYSE: PFE) entered into a $217 million research pact with Swedish biotech Karo Bio that was centered around ROR-gamma.

Gaweco also hopes to impress Big Pharma with his out-of-the-box approach to drug development. Rather than concentrating on getting one drug approved for one disease at a time, Innovimmune plans to pursue several development tracks simultaneously. For example, the company is studying the potential of INV-17 in nine different diseases, all of which are somehow affected by ROR-gamma. Gaweco justifies that approach by pointing to the fact that once patents are issued on a novel drug, a company generally has no more than 20 years to capitalize on it before it becomes vulnerable to generic competition. "Once in a while you get a golden egg," he says. "Don't waste the opportunity to get the most bang for your buck."

Gaweco's approach to entrepreneurship and drug development was shaped by more than a decade of working in Big Pharma. After receiving his M.D./Ph.D in immunology, Gaweco went to work in 1999 for AstraZeneca (NYSE: AZN), where he helped launch the blockbuster heartburn drugs esomeprazole (Nexium) for heartburn and rosuvastatin (Crestor) for high cholesterol. He then moved on to Pfizer, where he served on the development team for a drug in an emerging class called JAK3 inhibitors, which is now in late-stage development to treat several autoimmune diseases. Gaweco went on to stints at Roche and Lifecycle Pharma before deciding to strike out on his own.

Innovimmune has just eight employees and is based out of an biotech incubator in Brooklyn operated by State University of New York. Gaweco knows his startup is at the stage when most would seek VC funding, but he's sticking to what he refers to as his "very cowboy" strategy of looking for pharma partners instead. "There's a drought in pharma," he says. "Maybe we could be a nice poster child for Big Pharma reinventing itself." ■

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