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Synagis, Synergy: Trellis Getting $338M In RSV MedImmune Deal

By Donna Young
Washington Editor

MedImmune LLC is seeking to build on its respiratory syncytial virus (RSV) franchise through a new deal inked with South San Francisco-based Trellis Bioscience Inc., which potentially stands to gain $338 million plus royalties in exchange for the exclusive worldwide development and commercialization rights to its RSV antibody technology.

While Trellis was courted by several firms for its CellSpot multiplexed single-cell phenotyping technology, said Chief Business Officer James Posada, MedImmune was the "logical" choice for the deal, given that the Gaithersburg, Md.-based company's Synagis (palivizumab) is the only licensed antibody on the U.S. market for RSV, a respiratory virus that infects the lungs and breathing passages and is the most common cause of pneumonia and bronchiolitis in infants and young children.

Synagis, a humanized murine monoclonal antibody against the RSV F protein, is used to prevent serious lower respiratory tract infections caused by RSV in children at high risk for the disease.

The product was licensed in 1998, when MedImmune was still a relatively small biotech, Posada noted.

"They saw the opportunity and figured out how to address it and developed Synagis from a project in the lab to a commercial product," he told *BioWorld Today*. "They really have developed an incredible amount of expertise in that area. That is one of the reasons we think they will be a great partner."

Posada noted that Synagis has more than $1 billion in annual sales. "We came to the conclusion that our antibodies probably have the highest probability of reaching the market with somebody like MedImmune," he said.

Trellis has been working on developing antibodies not only to prevent RSV but also to treat the disease, he said.

The firm's CellSpot technology uses an approach different from traditional antibody discovery platforms, Posada explained.

"The human body over tens of thousands of years has evolved its immune system to make really outstanding antibodies to fight infectious disease," Posada said. "So we have taken the approach of finding patients who have been challenged by a particular infectious disease and have overcome it and done very well, and then we looked at the antibodies that are circulating in that patients' blood, and basically let the human immune system point us to the most interesting antigens on those viruses."

But, he said, while there are "outstanding and effective" antibodies circulating in human blood, there is difficulty in identifying those antibodies, "because they are present in very little amounts and they are in the background in a tremendously large number of antibodies. So it is kind of like finding a needle in a haystack."

Trellis' CellSpot technology allows high-throughput screening of human B cells in a multiplexed format, enabling rapid identification and isolation of extremely rare human antibodies produced from the B cells of RSV-infected patients, Posada said.

"So we've got a fully human antibody that has been selected by the body as something that is efficacious for fighting off a virus," he said.

Because CellSpot enables discovery of antibodies directly from human blood cells, "it doesn't interact with any of the normal human proteins, so we don't have the immunogenicity problem you might have with other sources of antibodies," Posada said.

Trellis' scientists have been working with the Centers for Disease Control and Prevention for a number of years researching antibodies derived from the B cells of RSV-infected patients to treat and prevent the disease.

"Using our CellSpot platform, we found some very interesting antigens on RSV that we thought had the potential to be used in the treatment mode as well as the prophylaxis mode, so that is a real breakthrough,"

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Posada said. He noted that the results of the Trellis-CDC research collaboration, which he called a "scientist-to-scientist" partnership, were published in the Oct. 19, 2009, issue of the *Journal of Immunology*.

While the venture-backed company, which has raised about $38 million in financings to date, has not yet sought government grants or contracts to advance its CellSpot platform, Posada said "that is something we are certainly looking into" for future development, especially for its influenza antibody discovery program.

Trellis also is using its CellSpot technology to pursue therapies for cytomegalovirus, a common congenital infection, which can result in disabling birth defects.

"We are sticking with the theme of infectious diseases and exploring the platform using its strengths to find antibodies," Posada said.

In the meantime, he said, the MedImmune deal is a "great validation" of Trellis' CellSpot technology.

"We are thrilled that someone as sophisticated as MedImmune saw the same value in the antibody, so that was a pretty rewarding experience. And obviously, the funding from this deal is tremendously helpful to the company." ■

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