

A delivery system to fight the flu

By Dave Bender

May 23, 2010

Biopharmaceutical firm NasVax is making waves with its VaxiSome delivery system which helps boost the body's response to a vaccine.



Photo by Miriam Alster/Flash90.

Flu shots and other vaccinations could be more effective using immunotherapy developed by Israeli company NasVax.

Israeli biopharmaceutical firm NasVax has signed a deal with Swiss pharma giant Novartis to develop new vaccines together, including influenza-fighting strains.

"What's significant is that Novartis is one of the five largest vaccine companies in the world," Dr. Ronald Ellis, NasVax senior vice president and chief technical officer, tells ISRAEL21c, "and they found it attractive to work with us."

NasVax CEO Erez Chimovits says the agreement "is another major step in realizing NasVax's strategy and vision of creating value by introducing its innovative technologies to the market through collaborations with world-leading vaccine manufacturers."

The understanding, which was inked in late February, will allow Basel-based Novartis, which pulled in over \$36 billion in sales in 2008, to use the NasVax patented VaxiSome delivery system. VaxiSome is an adjuvant technology which helps boost the body's response to a vaccine.

Collaboration with top European pharma companies

VaxiSome is used in immunotherapy to fight the body's autoimmune response in inflammatory diseases like lupus erythematosus, which attacks healthy tissue and cells, causing rashes and related ailments. The vaccine can be given via intranasal, intramuscular and subcutaneous methods.

"VaxiSome helps to change certain cells in the immune system, and those cells help to downplay the autoimmune or inflammatory response," Ellis explains.

"We have a portfolio of vaccines and immunotherapeutic products which is unique in Israel," Ellis tells ISRAEL21c, pointing out what he believes attracted Novartis to the firm based in Ness Tziona in central Israel.

Ellis says the collaboration with Novartis, as well as an ongoing relationship with Belgium's GlaxoSmithKline Biologicals

in immunocal vaccine trials is a "validation that the work we're doing is of development and potential commercial interest that's attractive to the field."

He added that medical trials held in Israel are recognized by US and European authorities as being held in a location of high quality, where it's less logistically cumbersome to hold an initial clinical trial than it is abroad.

"In general, Israel has more of the entrepreneurial spirit, can start things up faster, and I'd say Israeli companies are nimbler than US bio-tech companies I'm familiar with," Ellis declares.

Israeli environment conducive to speedy informality

"There's more of that spirit of 'get going, let's do it quickly,' " a can-do attitude, says Ellis, explaining a theory similar to the subject of the recent international bestseller, *Start-up Nation: The Story of Israel's Economic Miracle*, by Dan Senor and Saul Singer.

"Although US bio-techs move quickly, I find here the environment is conducive to doing things faster, and being more flexible," Ellis says, referring to Israel's reputation for speedy informality.

NasVax was co-founded in 2004 by Prof. Yechezkel Barenholz, a pioneer in co-developing the first-ever FDA-approved, nanomedical drug, Doxil, at the Hadassah Medical School at The Hebrew University of Jerusalem.

"We have a very good eye on technologies in Israel," Ellis says, touting Israel's biotech prowess. "On a per-capita basis, I believe Israel is the world's most productive place for new bio-technologies in our area."

According to Ellis, location is key in the biotech arena. "That's what makes us distinctive versus our competition; that we have a 'first eye' on Israeli technology - which is excellent," he asserts.

He tells ISRAEL21c that NasVax' funding comes from the northern-Israel based Meytav industrial incubator. The initial public offering was in 2005, and a second-round IPO followed in 2007.

Contributing to Israeli technology

In addition to his other positions, Ellis heads the company's R&D efforts. The 28-year veteran of the pharmaceutical industry says he's led teams that have brought five major vaccines to the US and European market.

Moving to Israel from the US a few years ago, Ellis settled in Jerusalem with his wife and two children. Although he's the only non-native Israeli at the company's offices, he says he tries to keep small talk, "as much as possible, to 'Ivrit [Hebrew],' but when I talk technical, I tend to talk, most of the time, in English.

"Because of my job responsibilities in R&D, I have to be able to express myself with perfect precision; I cannot do that in Hebrew," Ellis admits.

"My wife and I decided a few years ago to make aliya, and spend the rest of our lives here with our children and grandchildren," but aside from personal reasons, Ellis continues, "I recognize that the Israeli bio-tech industry is very strong, and I want to contribute to Israeli technology."

Ellis says he believes that NasVax is making its mark.

"I feel that at NasVax, I'm doing so, too; we have an exciting pipeline of projects that hopefully can go through development and clinical studies, and one or more can make it to market one day."