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Lux Starts Phase III Studies; Isotechnika Raises \$34.5M

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Washington Editor

Lux Biosciences Inc. began pivotal testing of LX211, a next-generation calcineurin inhibitor that's licensed from Isotechnika Inc., which raised C\$40.4 million (US\$34.5 million) in unrelated but coincidental news.

Jersey City, N.J.-based Lux is studying the compound's ability to treat different forms of active uveitis, an autoimmune disease driven by T lymphocytes and characterized by chronic ocular inflammation, as well as its capacity to maintain control in patients with inactive disease. It's hoped that the drug will allow physicians to reduce or eliminate steroid use in those patients, for whom such therapy remains the only currently approved option despite steroids' poor side-effect profile in a chronic disease that typically sets in when patients are in their mid-40s.

"Our aim is to bring steroids down below 7.5 mg per day, and if possible, get them tapered to zero," Lux President and CEO Ulrich Grau told *BioWorld Today*, noting that steroid-sparing drugs such as methotrexate sometimes are worked into patients' treatment regimens despite their own deleterious side effects. "It's a bit of dance on a tight rope, so to speak," he added, and removing either steroids or steroid-sparing drugs causes the disease to flare and leads to eventual blindness.

So there is a medical need for "something suitable for long-term treatment in these patients," Grau said.

The privately held company is conducting a trio of study protocols in parallel as part of the program, which is labeled LUMINATE (Lux's uveitis multicenter investigation of a new approach to treatment). Each of the three double-blind trials is designed to test three oral doses of LX211 (0.2 mg/kg, 0.4 mg/kg and 0.6 mg/kg) and placebo in patients with uveitis focused in the front, middle, back and throughout their eyes, including those with both active and controlled disease. About 45 sites in North America, Europe and India are expected to enroll a total of more than 500 patients.

Investigators will measure efficacy at six months through the use of standardized scales for evaluating inflammation in the front and back segments of the eye. For example, in posterior uveitis, a measure of vitreous haze will be used, and a cell count in anterior uveitis.

LX211's biological mechanism in dampening T-cell inflammation provides efficacy in a range of autoimmune diseases, and also appears to be well tolerated. About 300,000 Americans have some form of uveitis, Grau said, though he added that that approximation might be underestimated. Of them, about a third have severe disease requiring heavy steroid treatment, and therefore represent candidates for LX211.

Lux, which raised \$49 million through two closings of its first round of financing last summer, hopes to complete enrollment late this year and, if successful, seek regulatory approval late next year. The Phase III program is expected to support regulatory clearance in the U.S., Europe and Canada, "at the very least," Grau said.

In addition to uveitis, the company also plans to develop it in other ophthalmic indications such as dry eye syndrome through a polymer implant, as well as age-related macular degeneration by regulating that disease's inflammatory components. Both indications could enter clinical studies by the end of next year, Grau said.

Lux has an exclusive worldwide license to LX211 for ophthalmic indications from Isotechnika, which has a number of additional partnerships on the compound. In the ocular deal, reached last summer, Lux paid \$3 million at the outset for access to the drug and could pay up to another \$33 million for approval-related milestones, Grau said, as well as low double-digit sales royalties.

"We have started with a small project from scratch, basically, at the end of May when we got access to the molecule," Grau said, "and moved it from there to the clinic in

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about eight months. Given the fact that it has not been used in ophthalmic diseases before, that's very impressive, I would say."

Edmonton, Alberta-based Isotechnika, which calls the drug ISA247, has advanced the molecule into Phase III testing for psoriasis and Phase IIb for solid organ transplants. The latter study has been paid for, so the latest financing primarily is intended to fund Canadian and European trials in psoriasis, President and CEO Randall Yatscoff told *BioWorld Today*. Already, more than 100 of the planned 900 patients have been recruited, and final data are due in about a year.

All transplant indications are licensed to F. Hoffman La Roche Ltd., of Basel, Switzerland. At the end of Phase IIb, Roche has an option to take a more active role with the program and fund 70 percent of expenses going forward; Isotechnika has heretofore footed the bill. ISA247's use in drug-eluting devices for vascular, cardiovascular, target vessel and tissue disorders is partnered with Atrium Medical Corp., of Hudson, N.H. In addition, there is an option agreement for its topical delivery for psoriasis through technology belonging to Cellgate Inc., of Redwood City, Calif.

Isotechnika's bought deal financing is comprised of about 21.9 million units at \$1.85 apiece, including a base offering of 19 million units and the underwriters' full exercise of about 2.9 million more to cover overallocments. Each unit consists of one common share and a purchase warrant for half a share, and each whole warrant will entitle the holder to purchase one share for two years after the deal closes at C\$2.40, subject to standard anti-dilution adjustments.

In addition to clinical trial expenses, the company plans to use its proceeds for working capital and general corporate purposes. As of Sept. 30, Isotechnika had C\$33 million in reserve.

A "large portion" of the investment came from Canadian backers, Yatscoff said, with a bit of American money, too. The syndicate of underwriters was led by GMP Securities LP and also included Canaccord Capital Corp., RBC Dominion Securities Inc. and National Bank Financial Inc.

As a result of the financing, Isotechnika recently canceled a \$40 million equity drawdown facility with Azimuth Opportunity Ltd. ■