
PHARMAXIS GRANTS APTAR PHARMA EXCLUSIVE OPTION TO DEVELOP AND PROMOTE HIGH PAYLOAD DRY POWDER INHALER

- **Drug delivery solutions developer Aptar Pharma acquires an exclusive 12-month option for a worldwide license to the “Orbital” technology for \$US2.5m plus sales royalties**
- **Pharmaxis receives a US\$250k upfront fee for the option grant**
- **Orbital dry powder respiratory inhaler developed by Pharmaxis delivers large payloads of drug in a convenient easy-to-use format**
- **Pharmaxis retains rights to inhaled mannitol products delivered via the Orbital inhaler**

Clinical stage drug developer Pharmaxis (ASX: PXS) and drug delivery solutions provider Aptar Pharma announced that they have entered into an agreement under which Aptar Pharma has the option to acquire the worldwide rights to Pharmaxis’ proprietary inhaler Orbital, a unique device designed to deliver high payload dry powder to the lungs.

As part of the agreement, Aptar Pharma will evaluate the commercial applications for the Orbital device and further develop the prototype device to meet unmet market needs. Aptar will pay Pharmaxis US\$250k for the 12-month option and a further US\$2.5m on exercise of the option. If exercised, Aptar will pay Pharmaxis industry standard royalties on income received for Orbital. Pharmaxis retains the rights to devices containing Orbital intellectual property used to deliver inhaled mannitol.

The Orbital technology is built on Pharmaxis patents, which allow powder payloads of up to 400mg or more to be inhaled by patients in divided doses without the need to reload. This unique platform was originally developed as a life cycle extending product for the Pharmaxis cystic fibrosis drug Bronchitol®(mannitol). However, it also meets an increasing global need to deliver high doses of other drugs, such as antibiotics, to the lungs.



Pharmaxis CEO Gary Phillips said, “The Orbital Inhaler is an innovative device that eliminates the need for manual reloading of multiple powder-containing capsules needed for a single dose of drug. This can deliver improvements in the patient experience, compliance, market share and also effectively extend patent life of drugs that use the device. The prototype device we’ve developed

has been tested in phase 1 studies where it performed well. Any further development as a next generation Bronchitol product will be subject to commercial funding from our Bronchitol distribution partners.

“I am delighted with the forthcoming partnership with Aptar Pharma, who are one of the world’s foremost drug delivery device companies. In their hands, we hope to fully exploit the potential of the Orbital technology in other drugs and secure a return on the work we have already completed. Today’s announcement is a further example of our strategy to generate non-dilutive cash from the mannitol respiratory business and also generate the opportunity for future income streams.”

Howard Burnett, Vice President Global Pulmonary Category, Aptar Pharma, said, “We are pleased to partner with Pharmaxis on this novel technology, which continues the development of Aptar Pharma’s industry-leading portfolio of devices for inhalation. Coupled with our broad Services offering, we will seek to expand the range of drugs administered by inhalation.”

Pharmaxis is an established Australian clinical stage drug development company with expertise developing drugs for inflammatory and fibrotic diseases. The company has a highly productive drug discovery engine, drug candidates in clinical trials and two respiratory products approved and supplied in global markets. The Pharmaxis headquarters at Frenchs Forest in Sydney houses high tech science labs and drug manufacturing facilities.

#ENDS#

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About Pharmaxis

Pharmaxis Ltd is an Australian clinical stage drug development company developing drugs for inflammatory and fibrotic diseases, with a focus on myelofibrosis. The company has a highly productive drug discovery engine built on its expertise in the chemistry of amine oxidase inhibitors, with drug candidates in clinical trials. Pharmaxis has also developed two respiratory products which are approved and supplied in global markets, generating ongoing revenue.

Pharmaxis is developing its drug PXS-5505 for the bone marrow cancer myelofibrosis which causes a build-up of scar tissue that leads to loss of production of red and white blood cells and platelets. The US Food and Drug Administration has granted Orphan Drug Designation to PXS-5055 for the treatment of myelofibrosis and permission under an Investigational Drug Application (IND) to progress a phase 1c/2 clinical trial that commenced recruitment in Q1 2021. PXS-5505 is also being investigated as a potential treatment for other cancers such as glioblastoma, liver and pancreatic cancer.

Other drug candidates being developed from Pharmaxis' amine oxidase chemistry platform are targeting fibrotic diseases such as kidney fibrosis, NASH, pulmonary fibrosis and cardiac fibrosis; fibrotic scarring from burns and other trauma; and inflammatory diseases such as Duchenne Muscular Dystrophy.

Pharmaxis has developed two products from its proprietary spray drying technology that are manufactured and exported from its Sydney facility; Bronchitol® for cystic fibrosis, which is approved and marketed in the United States, Europe, Russia and Australia; and Aridol® for the assessment of asthma, which is approved and marketed in the United States, Europe, Australia and Asia.

Pharmaxis is listed on the Australian Securities Exchange (PXS). Its head office, manufacturing and research facilities are in Sydney, Australia. www.pharmaxis.com.au

About Aptar

Aptar Pharma is part of AptarGroup, Inc., a global leader in the design and manufacturing of a broad range of drug delivery, consumer product dispensing and active material science solutions. Aptar's innovative solutions and services serve a variety of end markets including pharmaceutical, beauty, personal care, home, food and beverage. Using insights, proprietary design, engineering and science to create dispensing, dosing and protective technologies for many of the world's leading brands, Aptar in turn makes a meaningful difference in the lives, looks, health and homes of millions of patients and consumers around the world. Aptar is headquartered in Crystal Lake, Illinois and has 13,000 dedicated employees in 20 countries. For more information, visit www.aptar.com.

Forward-Looking Statements

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