Media Release

19 October 2022

PHARMAXIS POSITIVE INTERIM DATA FROM MYELOFIBROSIS PHASE 2 CANCER TRIAL

- **PXS-5505 continues to exhibit an excellent safety profile with encouraging signs of clinical activity in patients' ineligible for a JAK inhibitor.**
- **15 out of 24 patients recruited with full recruitment expected by year end and results in Q3 2023.**

Clinical stage drug development company Pharmaxis Ltd (ASX: PXS) has concluded an interim analysis of data from 6 patients who have completed 6 months' treatment with PXS-5505 in its open label phase 2 clinical trial in patients with the bone marrow cancer myelofibrosis. The phase 2 trial known as MF-101 was cleared by the FDA under the Investigational New Drug (IND) scheme and aims to demonstrate that PXS-5505, the lead asset in Pharmaxis' drug discovery pipeline, is safe and effective as a monotherapy in myelofibrosis patients who are intolerant, unresponsive or ineligible for treatment with approved JAK inhibitor drugs. These patients have very limited treatment options and a life expectancy of approximately 1 year.

A total of 15 patients have been enrolled in the cohort expansion phase of the study with 6 patients having completed 24 weeks of treatment. Four patients have dropped out of the study due to a lack of clinical response.

- PXS-5505 has been well tolerated with no serious treatment related adverse events reported.
- 2/6 patients had clinically important improvement in symptoms.
- 5/6 patients had either stable or improved bone marrow fibrosis scores of ≥1 grade.
- 5/6 have stable or improved platelet and/or haemoglobin scores.
- No reductions were seen in spleen volume.

Dr Gabriela Hobbs MD, Assistant Professor, Medicine, Harvard Medical School & Clinical Director, Leukemia Service, Massachusetts General Hospital said, "PXS-5505 continues to be very well tolerated in the clinic with no serious treatment related adverse events reported. Though still early in the dose expansion phase of the study, PXS-5505 appears to be stabilising and in some cases, improving the hemoglobin and platelet counts, which has also been associated with symptom improvements in those patients that were treated to 24 weeks.

"This is encouraging given the poor prognoses seen after ruxolitinib discontinuation with a median overall survival of only 11-14 months[1], typical of this study population. These results support further clinical investigation of PXS-5505 in myelofibrosis."

A total of 18 clinical trial sites are now actively recruiting in Australia, South Korea, Taiwan and the US with two more sites due to open in Q4. Recruitment is expected to complete by the end of 2022 with top line results available in Q3 2023.

Mr Gary Phillips, Pharmaxis CEO said, "We are confident that these results, if repeated in the whole study population, will satisfy regulatory requirements to continue the development of PXS-5505 in myelofibrosis and also excite clinicians, patients and industry groups who are closely following our progress with this novel mechanism. The excellent target enzyme inhibition and safety profile seen in previous studies has been maintained when the treatment periods have been extended to 6 months and the signs of efficacy to date are compatible with the disease modifying effect witnessed in the pre-clinical studies."

"This study is recruiting patients who have already failed on a JAK inhibitor or been deemed to be ineligible. We have ended up with a very heterogeneous group of patients who have often run out of treatment options. This is an excellent context for demonstrating the safety profile of PXS-5505 in a wide range of circumstances, but is challenging when looking for consistent results in efficacy when the base line assessments are so varied. We anticipate that with longer treatment periods or combination with a JAK inhibitor in patients with less severe disease we will see further improvements in bone marrow fibrosis and blood cell counts as well as the subsequent reductions in spleen volume that would result from this disease modifying mechanism."

While Pharmaxis' primary focus is the development of PXS-5505 for myelofibrosis, the drug also has potential in several other cancers including liver and pancreatic cancer where it aims to break down the fibrotic tissue in tumours and enhance the chemotherapy treatment. An investigator led phase 1c study in newly diagnosed hepatocellular cancer patients, where PXS-5505 will be used in addition to immunotherapy standard of care, is due to commence recruitment at Rochester University New York in Q4 2022.

Pharmaxis will host an investor briefing at 11.00am today, 19 October 2022 to discuss the interim data. Register for the briefing or listen to a recording of it at https://www.pharmaxis.com.au/investor-centre/investor-briefing/.

Note 1.Vachhani P, Verstovsek S, Bose P et al: Disease Modification in Myelofibrosis: An Elusive Goal. J Clin Oncol 40:1147-1154, 2022

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SOURCE: Pharmaxis Ltd, Sydney, Australia

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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 began recruitment in Q1 2021. PXS-5505 is also being investigated as a potential treatment for other cancers such as liver and pancreatic cancer. The FDA has granted an IND for a phase 1c/2a clinical trial in liver 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 other inflammatory diseases. PXS-4728 is being studied in collaboration with Parkinson's UK as a best in class SSAO/MAOB inhibitor to treat sleep disorders and slow progression of neurodegenerative diseases like Parkinson's by reducing neuroinflammation.

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 PXS-5505

PXS-5505 is an orally taken drug that inhibits the lysyl oxidase family of enzymes, two members LOX and LOXL2 are strongly upregulated in human myelofibrosis. In pre-clinical models of myelofibrosis PXS-5505 reversed the bone marrow fibrosis that drives morbidity and mortality in myelofibrosis and reduced many of the abnormalities associated with this disease. It has already received IND approval and Orphan Drug Designation from the FDA.

About myelofibrosis

Myelofibrosis is a disorder in which normal bone marrow tissue is gradually replaced with a fibrous scar-like material. Over time, this leads to progressive bone marrow failure. Under normal conditions, the bone marrow provides a fine network of fibres on which the stem cells can divide and grow. Specialised cells in the bone marrow known as fibroblasts make these fibres.

In myelofibrosis, chemicals released by high numbers of platelets and abnormal megakaryocytes (platelet forming cells) over-stimulate the fibroblasts. This results in the overgrowth of thick coarse fibres in the bone marrow, which gradually replace normal bone marrow tissue. Over time this destroys the normal bone marrow environment, preventing the production of adequate numbers of red cells, white cells and platelets. This results in anaemia, low platelet counts and the production of blood cells in areas outside the bone marrow for example in the spleen and liver, which become enlarged as a result.

Myelofibrosis can occur at any age but is usually diagnosed later in life, between the ages of 60 and 70 years. The cause of myelofibrosis remains largely unknown. It can be classified as either JAK2 mutation positive (having the JAK2 mutation) or negative (not having the JAK2 mutation).

Source: Australian Leukemia Foundation: https://www.leukaemia.org.au/disease-information/myeloproliferative-disorders/types-of-mpn/primary-myelofibrosis/

Forward-looking statements

Forward-looking statements in this media release include statements regarding our expectations, beliefs, hopes, goals, intentions, initiatives or strategies, including statements regarding the potential of products and drug candidates. All forward-looking statements included in this media release are based upon information available to us as of the date hereof. Actual results, performance or achievements could be significantly different from those expressed in, or implied by, these forward-looking statements. These forward-looking statements are not guarantees or predictions of future results, levels of performance, and involve known and unknown risks, uncertainties and other factors, many of which are beyond our control, and which may cause actual results to differ materially from those expressed in the statements contained in this document. For example, despite our efforts there is no certainty that we will be successful in developing or partnering any of the products in our pipeline on commercially acceptable terms, in a timely fashion or at all. Except as required by law we undertake no obligation to update these forward-looking statements as a result of new information, future events or otherwise.