ASX Announcement | 5 November 2020
Noxopharm Limited (ASX:NOX)

Dedicated Septic Shock Company Established

Highlights:

- **Pharmorage Pty Ltd established: wholly owned subsidiary of NOX**
- **Royalty-based collaboration with Hudson Institute of Medical Research**
- **Created to house major Australian breakthrough discovery around drug action in inflammatory diseases**
- **Initial focus on septic shock with extension into autoimmunity via collaboration with The Australian National University**
- **Corporate strategy to allow Noxopharm to focus on Veyonda® while allowing discovery to create shareholder value**

Sydney 5 November 2020: Australian clinical-stage drug development company Noxopharm Limited (ASX:NOX) is pleased to announce a partnership with Hudson Institute of Medical Research ('**Hudson Institute**') and a collaboration with The Australian National University **('ANU')** that has led to the formation of the new Australian drug development company, Pharmorage Pty Ltd ('**Pharmorage**').

Pharmorage starts out with the primary aim of developing a better treatment for septic shock, a major and highly underserved condition within the community. The same drug technology platform with its anti-inflammatory actions is seen as having application to a growing number of autoimmune diseases, also in urgent need of better treatments.

Pharmorage brings together

- the NOX proprietary drug discovery and delivery platforms
- the Hudson Institute's world-leading expertise in the STING signalling pathway
- the ANU John Curtin School of Medical Research's leading position in the mechanisms underlying autoimmunity.

STING (Stimulator of Interferon Genes) signalling has emerged in recent years as playing a key role in the inflammatory process associated with viral and bacterial infections, cancer and cell damage in general. In the process it has become an important new drug target in chronic inflammatory diseases as well as hyper-inflammatory diseases such as septic shock.

Drugs targeting the STING signalling pathway have become the subject of considerable M&A activity in the industry.

The NOX drug technology platform has yielded compounds with novel actions against a range of biological pathways involved in inflammation, including STING. Pharmorage sees these novel kinase-inhibitory actions as the basis for major drug development programs in fields like septic shock and certain autoimmune diseases that have largely defied the development of safe, effective therapies.

The ground-breaking work of Dr Michael Gantier at Hudson Institute puts his laboratory at the forefront of studies in the role of STING pathways in inflammatory and autoimmune diseases.

https://hudson.org.au/latest-news/motor-neuron-disease-inflammation-trigger-discovered/

Equally, the ground-breaking work of Professor Carola Vinuesa's laboratory on the genetic and molecular mechanisms involved in autoimmunity, make them a highly valued research partner.

Noxopharm believes that the combined know-hows of NOX, Hudson Institute and the ANU gives Pharmorage an important competitive advantage that should see it progress quickly with valuable advances.

Graham Kelly PhD, Noxopharm CEO, said, "Pharmorage is leveraging off the promise of Veyonda® in blocking STING signalling, cytokine storm and septic shock in COVID-19 patients. Veyonda is showing what is possible, and Pharmorage seeks to build on that promise by developing drugs with greater focus on septic shock. Given the pre-eminence of septic shock as a cause of human death, this opportunity is too valuable and too important to ignore. The Company shares the growing view of many experts that the SARS-CoV-2 virus will move from pandemic to endemic status, in the way of the influenza virus, resulting in many seasonal deaths due to septic shock. Finding effective treatments to prevent septic shock has always been there, but suddenly has become a major pandemic-led imperative."

"With the ongoing aim of creating shareholder value, Pharmorage has been formed to act on this opportunity and obligation without diluting the Company's focus of developing Veyonda® as an important second generation immuno-oncology drug."

Professor Elizabeth Hartland, Director and CEO, Hudson Institute said, "Hudson Institute is excited to enter into this partnership with Noxopharm. Industry collaborations such as these ensure our researchers' discoveries reach patients as quickly as possible. Pharmorage will enable the development of drugs targeting the STING pathway to tackle chronic inflammatory and autoimmune diseases, and life-threatening inflammation."

Professor Graham Mann, Director of the ANU John Curtin School of Medical Research said, "ANU is delighted to see rapid translation of our discoveries in inflammation and immunity for patient benefit, especially with Australian partners."

Other key matters:

- In the short term, Pharmorage will remain a wholly owned entity within the NOX Group, although charged with becoming financially independent as quickly as possible, something NOX is confident can be achieved relatively quickly given strong industry interest in the field
- The advantage for NOX shareholders is seen as the commercial prize in developing a first-in-class treatment for a condition responsible for an estimated 10 million deaths globally each year
- Hudson Institute will conduct laboratory studies and provide know-how and accordingly is entitled to a royalty on income
- ANU will conduct laboratory studies on a sponsored research basis.

Graham Kelly, CEO and Managing Director of Noxopharm, has approved the release of this document to the market on behalf of the Board of Directors.

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About Septic Shock

Sepsis is the result of a bacterial or viral infection, triggering the release into the blood of pro-inflammatory proteins known as cytokines meant to repair tissue damage caused by the infection. In certain circumstances this cytokine response can be potentially life-threatening by creating the phenomenon known as septic shock. Septic shock occurs when the cytokine response is excessive, with a raft of cytokines being produced at very high levels (called 'cytokine storm') and turning what should be a normal local inflammatory response meant to repair damaged tissue, into an overwhelming, whole-of-body response that pushes the patient into risk of multiple organ failure. Patients with septic shock experience a significant drop in blood pressure and clotting abnormalities that can lead to respiratory or heart failure, stroke, failure of other organs, and death. Septic shock is the most common cause of death in intensive care units in the United States and is responsible for an estimated 10 million deaths globally each year, accounting for about 20% of all deaths.

About STING

STING (Stimulator of Interferon Genes) is part of a primitive defence mechanism that detects the presence of invading pathogenic organisms such as viruses or bacteria. In addition, STING plays important roles in the clearance of damaged cells and tissues. Both responses trigger the production of cytokines whose task it is to coordinate the subsequent immune and tissue repair (inflammatory) responses. STING engagement in the early stages of infection can contribute positively to the body's immune response to the pathogens. However, STING engagement becomes a negative and self-destructive force if the infection persists and progresses to the point of causing extensive tissue damage. Under those conditions, the STING pathway contributes to the so-called 'cytokine storm', promoting further organ damage and forming the basis of septic shock.

About Veyonda and STING

Idronoxil (the active ingredient in Veyonda®) is being developed as an anti-cancer compound based on a mechanism of action that down-regulates sphingosine-1-phosphate production in tumour cells. Idronoxil also has been shown to be a potent inhibitor of the STING signalling pathway, with downstream abrogation of production of a wide range of cytokines including IL-6 and IFN-beta. This STING antagonism has been shown both in primary immune cells and human cancer cells. The Company believes that Veyonda® is the only STING antagonist in the clinic.

About Noxopharm

Noxopharm Limited (ASX:NOX) is an Australian clinical-stage drug development company focused on the treatment of cancer and septic shock.

Veyonda® is the Company's first pipe-line drug candidate currently in Phase 2 clinical trialling. Veyonda® is a second generation immuno-oncology drug candidate being developed for the treatment of a range of late-stage cancers.

Noxopharm also is the major shareholder of US biotechnology company Nyrada Inc (ASX:NYR).

To learn more, please visit: noxopharm.com

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Forward Looking Statements

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