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ASX: NOX

Noxopharm Limited

ABN 50 608 966 123

Registered Office:

Suite 1 Level 6
50 Queen St
Melbourne VIC 3000
Australia

Board of Directors

Mr Peter Marks

Chairman
Non-Executive
Director

Dr Graham Kelly

Chief Executive Officer
Managing Director

Dr Ian Dixon

Non-Executive
Director

BREAKTHROUGH IN DELIVERING IDRONOXIL INTO BRAIN

- **NOX66 delivers idronoxil across blood-brain barrier**
- **High drug levels achieved**
- **Promise of ability to boost response rate of brain cancers to standard therapies.**

Noxopharm Limited (ASX: NOX) announces that its NOX66 delivery technology successfully delivers high levels of the experimental anti-cancer drug, idronoxil, to the brain.

The blood-brain barrier is a robust barrier that serves to exclude foreign chemicals from accessing brain tissue. While serving a vital protective function to protect the brain from potentially harmful compounds, it also inadvertently prevents many drugs from accessing the brain that are intended to deliver a therapeutic benefit.

Previous animal studies are reported to have shown negligible penetration of the blood-brain barrier by idronoxil, a feature it shares with other compounds of the same chemical class, limiting their usefulness to treat cancers within the brain.

A recently completed rat study showed that delivering idronoxil in the form of NOX66 led to high levels of idronoxil in the brain, comparable to levels in the rest of the body, and that those levels were sustained for up to 24 hours, an important factor in treating cancers with the aggression of brain cancers.

Dr Kelly, Noxopharm CEO, said, "It would be difficult to overstate the importance of this development. At the most obvious level it opens up the opportunity to use idronoxil to make all forms of cancers of the brain to respond more profoundly to chemotherapy and radiotherapy. While we have been focusing largely on cancers such as prostate and lung cancer, brain cancer has been an active area of pre-clinical research for us and this finding now gives that work additional impetus to come into the clinic."

“It needs to be acknowledged that this is a finding in animals and has yet to be confirmed in humans. However, the rat has proved to be a reliable predictor of whether a drug is able to cross the human blood-brain barrier, so I am optimistic that we have solved the problem of delivering idronoxil into the human brain.”

“NOX66 was designed to keep idronoxil circulating in the body in an active form that readily sought out cancer cells. It appears that this design fortuitously also allows free and ready access of this drug to the brain,” Kelly added.

The release of this news corresponds with the lodgement yesterday of an appropriate patent for this intellectual property.

About The Blood-Brain Barrier

The blood-brain barrier exists in the blood vessels in the brain, where the endothelial cells lining the blood vessels are more tightly joined than in the rest of the body, joined by brain cells known as glial cells that control the inflow of compounds into the brain. Together these two layers ensure that passive diffusion of compounds into the brain is limited to water, some gases and a small number of compounds. Everything else, including drugs, is subject to active transport mechanisms which are highly selective. Some 98% of human drugs fail to cross the blood-brain barrier because of the absence of active transporters specific for those drugs.

About Noxopharm

Noxopharm is an Australian drug development company with offices in Melbourne and Sydney. The Company has a primary focus on the development of drugs to address the problem of drug-resistance in cancer cells, the major hurdle facing improved survival prospects for cancer patients. NOX66 is the first pipeline product, with later generation drug candidates under development in an R&D program.

About NOX66

NOX66 is an innovative dosage formulation of the experimental anti-cancer drug, idronoxil, developed specifically to protect idronoxil from being inactivated in the human body by Phase 2 metabolism. Its purpose is to ensure that most idronoxil administered remains in the body in an active form. Idronoxil works by cancelling pro-survival mechanisms in cancer cells regulated by sphingosine-1-phosphate, a key pro-survival mechanism that allows cancer cells to resist the killing effects of chemotherapies and radiotherapy.

INVESTOR AND MEDIA ENQUIRIES:
E: info@noxopharm.com

Prue Kelly
T: + 61 2 9144 2223

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