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IMPORTANT BRAIN CANCER FINDINGS FOR NOX66 PROGRAM

- **Idronoxil enhances anti-cancer effect of main cancer drug on primary brain cancers**
- **Idronoxil able to kill highly drug-resistant brain cancer cells**
- **Effect of idronoxil unaffected by expression of gene causing resistance to therapy**
- **Aim to be testing NOX66 in patients with brain cancer in 2018.**

Sydney, 29 August 2017: Noxopharm is pleased to report that recent research findings represent major steps forward in its goal of using its frontline anti-cancer drug, NOX66, to treat primary cancers of the brain and bring the drug closer to the clinic.

The Company previously reported on pre-clinical findings supporting the use of NOX66 to treat secondary brain cancers (eg. lung and breast cancers, melanoma) that spread to the brain, but today's findings extend that opportunity to the treatment of cancers that originate within the brain and that traditionally have poor response rates to therapy.

The findings show the active drug in NOX66, idronoxil as having a potent ability to kill the most common form of adult brain cancer cells, even where those cells express a gene that makes them poorly responsive to chemotherapy and radiotherapy and is a marker of poor survival prospects. The Company believes this effect uniquely positions NOX66 in the search for a means of treating such a highly aggressive and lethal form of cancer, and to offer potential clinical benefit to all patients with brain cancer, including those with current poor response rates to treatment.

NOX66 is designed to make current treatment methods (chemotherapy and radiotherapy) considerably more effective. Its active component, idronoxil, converts sub-lethal levels of damage in cancer cells induced by other chemotherapy drugs and radiotherapy, into lethal levels. Pre-clinically, idronoxil makes standard chemotherapy drugs work up to several thousands of times greater across most forms of cancer.

The current NOX66 clinical program is testing the ability of NOX66 to make cancers respond better to current methods of chemotherapy and radiotherapy, with an emphasis on prostate cancer, lung cancer, and rare cancers. Brain cancer was not considered originally because idronoxil previously showed an inability (in common with most drugs) to cross the largely impenetrable blood-brain barrier. Without the ability toreach brain canecr tissue, idronoxil was considered unlikely to be effective.

That situation changed late last year when the Company showed that NOX66 was successful in delivering idronoxil across the blood-brain barrier of rats, leading the Company to embark on an R&D program designed to provide evidence that the drug's benefit might extend to the treatment of brain cancers.

A far-reaching brain cancer R&D program was initiated, encompassing both primary (cancers arising within the brain) and secondary (cancers spreading to the brain from elsewhere in the body) cancers both adults and children brain cancers, and the use of NOX66 in making both chemotherapy and radiotherapy more effective.

Three recent laboratory findings announced today signal the potential use of NOX66 to improve response rates in adult patients with the most common form of malignant brain cancer known as glioblastoma multiforme (GBM).

The findings come from a collaboration with a university neurosurgical research team working with cell lines of GBM. These cell lines are derived from patients whose cancers failed to respond to temozolomide (TMZ), the only cytotoxic chemotherapy approved to treat GBM. However, treatment resistance (failure of TMZ over time) in brain cancer is almost universal. The research team developed a program to study brain cancer resistance by growing the cancer cells in increasing amounts of TMZ so that they become super-resistant, providing a highly stringent test for any potential new therapies.

(a) The first finding is that idronoxil sensitised the cell lines to TMZ, increasing the killing effect of TMZ, despite the presence of this super-resistant state.

(b) The second finding is that idronoxil also was able to kill these highly resistant cancer cells on its own (in the absence of TMZ); to date, we have not been successful in finding a better drug than idronoxil in TMZ-resistant GBM cell lines.

(c) The third finding is that the effect of idronoxil is independent of the activity of a certain gene found in GBM. That gene (MGMT) is active in approximately 60% of GBM patients, signalling a poorer response to TMZ and a poorer survival outlook. Idronoxil proved able to kill GBM cells regardless of their MGMT status.

Noxopharm CEO, Graham Kelly, said, "Chemotherapy generally is poorly effective in the treatment of brain cancers due to 2 main problems. The first problem is the challenge of getting drugs across the blood-brain barrier. TMZ is just about the only chemotherapy drug to do so, but unfortunately it is one of the weaker acting chemotherapies. The second problem is that an active MGMT gene is found in roughly 3 out 5 cases of GBM, thereby reducing the impact of TMZ or radiotherapy."

"We had already shown that idronoxil dramatically increased the potency of TMZ against cancers such as breast cancer and melanoma, two cancers that often spread to the brain. The findings released today pleasingly show that this same sensitising effect extends to GBM, irrespective of how resistant they are to TMZ and irrespective of whether or not they express the MGMT gene. We believe that this puts NOX66 in a unique position and has spurred the Company to do what it can to bring NOX66 into the clinic in 2018 for the treatment of GBM in combination with TMZ. We are collaborating with an overseas neurosurgery group on that task, " Kelly added.

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About GBM

GBM affects approximately 130,000 patients worldwide annually. Standard therapy is surgery followed by TMZ with radiotherapy, and subsequently TMZ maintenance therapy. Despite the aggressive treatment, most patients only survive 1 to 2 years; only 3-5% are alive at 5 years and long-term survival is rare.

About MGMT gene

The O^6-methylguanin-DNA-methyltransferase (MGMT) gene regulates DNA repair. TMZ damages DNA, so that the repair activity of the MGMT gene counteracts that damage, leading to a lesser anti-cancer effect of both TMZ and radiotherapy. Some GBM cancers express a promoter that hypermethylates the MGMT gene, blocking the gene's ability to affect DNA repair. The presence of this methylation promoter is associated with better response to both TMZ and radiotherapy.

About NOX66

NOX66 is an innovative dosage formulation of the experimental anti-cancer drug, idronoxil, developed specifically to preserve the anti-cancer activity of idronoxil in the body and to enhance its drug-like behaviour. Idronoxil is a kinase inhibitor that works by inhibiting a range of enzymes including sphingosine kinase and PI3 kinase that regulate cell pro-survival mechanisms and which are over-expressed in cancer cells, as well as inhibiting external NADH oxidase Type 2 (ENOX 2) which is responsible for maintaining the transmembrane electron potential (TMEP) in the plasma membrane of cancer cells and whose expression is limited to cancer cells. Inhibition of these enzymes results in disruption of key downstream pro-survival mechanisms including resistance mechanisms, sensitizing the cancer cell to the cytotoxic effects of chemotherapy drugs and radiotherapy.

About Noxopharm

Noxopharm is an Australian drug development company with offices in Sydney, Melbourne and Hong Kong. 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. The Company also has initiated a pipeline of non-oncology drugs.

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