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NOXOPHARM RESEARCHING RARE ABSCOPAL RESPONSE

- **Rare response to radiotherapy produces dramatic anti-cancer effect**
- **Noxopharm examining potential to convert rare event into common event**
- **Pre-clinical project underway to define mechanism of action**
- **Two clinical studies to commence in 2017.**

Sydney, 3 March 2017: Recent patent filings mean Noxopharm (ASX: NOX) now is able to announce details of a major commitment to an R&D program involving a rare phenomenon encountered in cancer patients undergoing radiotherapy. The phenomenon is known as an 'abscopal response' and essentially means the unexpected disappearance of all cancers in the body following exposure of only a limited number of those cancers to radiotherapy.

Noxopharm believes that this rare phenomenon has the potential to be converted into a common event.

Radiotherapy often is used on a palliative basis in patients with late-stage cancers where the treatment is intended to shrink selected (1 or 2) larger tumours in order to provide temporary relief of symptoms such as pain. An abscopal response describes the situation where not only the irradiated cancers respond, but also all other cancers in the body including those too far away to have been exposed to any radiation.

The dramatic nature of the abscopal response effectively makes it a cure, and for this reason has become the ultimate goal of radiotherapy. However, the conditions required to create an abscopal response remain unknown, making attempts to reproduce the response deliberately a significant challenge. This accounts for the rarity of the phenomenon with only a handful of case reports of an abscopal response (with full remission) in the international literature over the past 40 years.

Noxopharm believes that its lead anti-cancer drug, idronoxil, has a mechanism of action with the potential to promote an abscopal response to radiotherapy. That belief currently is being put to the test in a pre-clinical program being run in

collaboration with a major Australian cancer research institute, and in 2 clinical studies (one in Australia and one overseas) planned to commence by mid-2017.

The Company has a current clinical program of 5 clinical studies testing the anti-cancer effect of idronoxil in the NOX66 dosage form. The patients in these studies will have late-stage cancer involving multiple (> 3) tumours. Two of these studies involve combination therapy of NOX66 plus radiotherapy, where between 1-2 tumours are exposed to radiotherapy, with at least 2 other tumours not exposed to radiotherapy. These 2 studies will determine the ability of NOX66 to shrink both the irradiated tumours (direct radio-sensitisation) and the non-irradiated tumours (abscopal effect).

Graham Kelly, Noxopharm CEO, said, “The abscopal response represents the pinnacle of response to radiotherapy, but reproducing it has proven elusive to date. I believe Noxopharm could be on its own in the biotechnology world in pursuing this goal, something that we believe is possible only because of our technology platforms. A recent US patent filing means that we now are able to explain to our shareholders the rationale behind some aspects of our clinical program.”

“With NOX66 now in use in the clinic and our first clinical study (a chemotherapy study) in our 5-study program underway, we are able to focus on rolling out the rest of the clinical program. The next study to commence is the first of the two NOX66 + radiotherapy studies. The details of this study will be released once it is officially open for enrolment, which we anticipate will be a matter of a few weeks.”

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. The purpose is to ensure that most idronoxil administered remains in an active form rather than as inactive Phase 2 metabolites.

Idronoxil works by cancelling mechanisms (such as PARP1/Akt) in cancer cells that allow those cells to resist the killing effects of chemotherapies and radiotherapy. Idronoxil targets an external NADH oxidase, ENOX 2, responsible for maintaining the transmembrane electron potential (TMEP) in the plasma membrane. Inhibition of this enzyme causes loss of TMEP and disruption of key downstream pro-survival mechanisms including PARP1/Akt/PI3 kinase. ENOX2 is an oncogene whose expression is restricted to cancer cells.

About Bystander and Abscopal Effects

The *bystander* and *abscopal* (Greek: ‘ab’ – away, ‘scopus’ – target) effects refer to the phenomena of radiation-like damage of cancer cells in the absence of any direct exposure to radiotherapy. The term *bystander* is applied to tumour cells neighbouring tumour cells exposed to radiotherapy; the term *abscopal* is applied to tumour substantially distant to exposed tumour cells. The mechanisms behind each effect are poorly understood, as is the relationship between the two effects. The abscopal effect is believed to require an immune component, whereas the bystander effect can be induced in the laboratory in the absence of any immune involvement.

About Noxopharm

Noxopharm is an Australian drug development company with offices in Sydney and Melbourne. 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.

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Forward Looking Statements

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