

ASX:NRT
NASDAQ:NVGN

Novogen Ltd
(Company)

ABN 37 063 259 754

Capital Structure

Ordinary Shares on
issue:

361 M

Board of Directors

Dr Graham Kelly
Chairman &
Executive Director

Steve Coffey
Non Executive Director

John O'Connor
Non Executive Director

Prof Peter Gunning
Non Executive Director

ASX RELEASE

14 May 2015

ANISINA CONFIRMED AS EFFECTIVE ANTI-CANCER AGENT IN ANIMAL STUDIES

- **Anti-tumor effect in mice with human melanoma cells**
- **Oral dosing effective with no observed toxicity**

Sydney, Australia, 14 May 2015: US-Australian drug discovery company, Novogen (NRT:ASX; NVGN: NASDAQ), today announced that it has confirmed that drug candidate, Anisina, is an effective monotherapy against human melanoma in an animal model.

The Company announced recently that Anisina was a potent cytotoxic in vitro against human melanoma cells, and in particular that this effect was unaffected by the mutational status of the melanoma cells, particularly the common Braf gene status.

The purpose of the pre-clinical study was to provide evidence that this potent anti-cancer effect could be transferred to the whole animal. Such evidence is required to justify conducting human clinical studies in adults with solid cancers such as melanoma. The Company previously has announced the effectiveness of Anisina as a monotherapy in mice bearing human neuroblastoma tumors, thereby justifying taking it into clinical trials in children and juveniles with solid cancers such as neuroblastoma. Taken together, the two results confirm the potential clinical benefit of this drug across both adult and paediatric cancers.

In the current study, highly chemo-resistant human melanoma cells were grown in athymic mice and the animals treated either orally or intravenously with Anisina. Both dosage forms were equally effective.

Novogen Anti-Tropomyosin Program Director, Justine Stehn PhD, said, "We are pleasantly surprised by the degree of anti-tumor activity of this drug candidate on its own. We had always seen the anti-tropomyosin technology as being an adjunct therapy for the more commonly used anti-mitotic drugs. The rationale behind its development was to destroy that half of a cancer cell's cytoskeleton that the anti-mitotic drugs didn't target. We reasoned that destabilising the entire cytoskeleton would achieve a much higher level of anti-cancer effect than that coming from targeting either half alone. And, indeed, that is what we see. Anisina used in combination with anti-mitotic drug, vincristine, increases the anti-cancer potency of vincristine 20-fold."

Stehn added “Despite all the evidence showing that Anisina has the potential to be just as effective a stand-alone chemotherapy as the anti-mitotic drugs, we still intend see Anisina as a companion drug for an anti-mitotic drug. The initial patients, however, will need to be treated with Anisina on its own, and this study now gives us the green light to proceed into a Phase 1 study in the first half of 2016.”

In preparation for both adult and paediatric clinical studies, the Company is conducting studies in a variety of both adult and paediatric solid and non-solid cancer types in order to determine the optimal drug combination. Data of the effectiveness of Anisina in combination with vincristine in animals bearing human neuroblastoma tumors is being presented to a conference in July 2015.

Graham Kelly, Novogen Group CEO, said, “Each step in the drug development process continues to build our confidence in the potential for this exciting first-in-class drug. The fact that we know its target and how it works; the fact that it is making the most commonly used drugs in chemotherapy work 20-times better, as well as looking like we can extend the effectiveness of the combination into tumor types traditionally unresponsive to anti-mitotic drugs; the fact that, in the case of melanoma anyway, its effectiveness is unaffected by mutational status; and the fact that it can be delivered conveniently by the oral route and in that form was well tolerated by animals with no observed side-effects: all these factors point to a highly versatile and promising new drug candidate with potentially broad application across the cancer spectrum.”

About Anisina

Anisina is a small molecule that specifically targets the tropomyosin isoform, Tpm3.1. Tropomyosins provide a rigid external scaffold to the central actin core of the microfilament component of a cell’s cytoskeleton. Without this rigidity, the microfilaments are inactive. There are over 40 different forms (isoforms) of tropomyosin of which Tpm3.1 is one. Tpm3.1 is present in all cells; normal cells are able to survive and function without Tpm3.1; cancer cells are highly dependent on the presence of Tpm3.1 for their survival and function. Exposure of cancer cells to Anisina leads to disassembly of their microfilaments, prevention of mitosis, and cell death. Anisina shows little or no effect on normal cells at therapeutic doses.

About Anti-mitotic drugs

Anti-mitotic drugs are drugs that block cell division (mitosis). This a shorthand term to describe a family of drugs that embraces the *taxanes* (paclitaxel, docetaxel, Abraxane) and *vinca alkaloids* (vincristine, vinblastine, Vinorelbine) and which work by blocking the ability of cells to divide (mitosis). Their anti-cancer action is based on their inhibition of the protein, tubulin, which is the principal component of microtubules, which along with microfilaments, make up a cell’s cytoskeleton. The cytoskeleton (microtubules and microfilaments) is critical to most cell functions, but particularly cell signalling, receptor function, and mitosis. The anti-mitotic drugs remain among the most widely prescribed anti-cancer drugs after 35 years of use and are standard of care for breast, prostate, lung, ovarian, colo-rectal, gastric and head and neck cancer, and many forms of leukaemia.

About Novogen

Novogen is a public, Australian-US drug development company whose shares trade on both The Australian Securities Exchange (NRT) and NASDAQ (NVGN). The Novogen group includes US-based, CanTx Inc, a joint venture company with Yale University. Novogen has two drug technology platforms yielding drug candidates that are first-in-class with potential application across a broad range of degenerative diseases. In the oncology field, the ultimate objective is to see both drug technologies used in combination as first-line therapy across most forms of cancer, with the objective of preventing tumor recurrence. This objective is based on a strategy of achieving comprehensive destruction of the full hierarchy of cells within a tumor with the super-benzopyran technology platform killing the tumor-initiating cells and the anti-tropomyosin technology, combined with vinca alkaloids, to deliver a potent chemical debunking effect on their daughter cells.

For more information, please visit www.novogen.com

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Forward Looking Statement

This press release contains "forward-looking statements" within the meaning of section 27A of the Securities Act of 1933 and section 21E of the Securities Exchange Act of 1934. The Company has tried to identify such forward-looking statements by use of such words as "expects," "appear," "intends," "hopes," "anticipates," "believes," "could," "should," "would," "may," "target," "evidences" and "estimates," and other similar expressions, but these words are not the exclusive means of identifying such statements. Such statements include, but are not limited to any statements relating to the Company's drug development program, including, but not limited to the initiation, progress and outcomes of clinical trials of the Company's drug development program, including, but not limited to, Anisina, and any other statements that are not historical facts. Such statements involve risks and uncertainties, including, but not limited to, those risks and uncertainties relating to the difficulties or delays in financing, development, testing, regulatory approval, production and marketing of the Company's drug components, including, but not limited to Anisina, the ability of the Company to procure additional future sources of financing, unexpected adverse side effects or inadequate therapeutic efficacy of the Company's drug compounds, including, but not limited to, Anisina, that could slow or prevent products coming to market, the uncertainty of patent protection for the Company's intellectual property or trade secrets, including, but not limited to, the intellectual property relating to Anisina, and other risks detailed from time to time in the filings the Company makes with Securities and Exchange Commission including its annual reports on Form 20-F and its reports on Form 6-K. Such statements are based on management's current expectations, but actual results may differ materially due to various factions including those risks and uncertainties mentioned or referred to in this press release. Accordingly, you should not rely on those forward-looking statements as a prediction of actual future results.