



## **ASX Release**

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### **Novogen Announces Successful Isolation of Most Potent Form of CS-6**

CS-6 is the lead anti-cancer drug candidate being developed by Novogen as a first-in-class comprehensive cancer therapy.

In manufacturing terms, CS-6 is classified as a chiral molecule, meaning that the molecule can exist in both left- and right-hand forms known as enantiomers. This tendency is common to most drugs as well as to many naturally-occurring molecules.

This significance of this to the pharmaceutical industry is that enantiomers often differ in their biological activity, with one form being more active than the other form. This difference can lead to the weakest form inhibiting the most active form. Where that happens, the enantiomers need to be separated and used in isolation.

The initial biological studies on CS-6 have been conducted using a mixture of the two enantiomers. This is a typical research strategy in early-stage drug development to save time and costs. Purification and manufacture of the pure left- and right hand forms is only undertaken once a molecule has demonstrated significant promise in pre-clinical studies. With CS-6 now having shown that promise, the Company recently undertook manufacture of pure left- and right-hand forms, representing a significant advance in its developmental pathway.

The two CS-6 enantiomers were screened recently *in vitro* for activity against brain cancer (glioblastoma and meduloblastoma) cell lines. Analysis of this data today shows that one CS-6 enantiomer is approximately 200 times more active than the alternate form of CS-6 against all brain cancer cell lines tested.

Novogen Chief Scientific Officer, Dr Andrew Heaton, today said, "The ability to manufacture CS-6 in both left- and right-hand forms represents a significant milestone in the development of this compound. The indication that one form of CS-6 is active at nanomolar concentrations against a broad spectrum of brain cancer lines is exciting and indicates that the earlier potencies we have seen against cancer cells and cancer stem cells are likely to be even greater with the purified enantiomer. We are now positioned to rapidly progress CS-6 to the clinic."

### **About Novogen**

Novogen Ltd is a public Australian biotechnology company whose shares trade on both the Australian Stock Exchange (symbol 'NRT') and NASDAQ (symbol 'NVGN'). The Company is based in Sydney, Australia and is focused on the

development of a family of novel anti-cancer drugs based on comprehensive anti-cancer activity against both cancer cells and cancer stem cells. The Company's inaugural drug candidate is CS-6.

### **About CS-6**

CS-6 belongs to a new class of drug candidates intended to treat most forms of cancer in a comprehensive manner, targeting both cancer cells and their progenitor cells .... cancer stem cells. CS-6 shows broad anti-proliferative and cytotoxic activity against human cancer cells and ovarian cancer stem cells. CS-6 also has been designed deliberately to meet the major known criteria for crossing the blood-brain barrier, and for that reason is being developed as a first-line for the treatment of glioblastoma multiforme, the main form of primary brain cancer.

### **About Cancer Stem Cells**

Cancer stem cells (CSC) (or tumour-initiating cells) are believed to be a subpopulation of cells within many types of cancer that are responsible for driving the growth and spread of the cancer. CSC typically are resistant to radiotherapy and chemotherapy and are thought to be responsible for cancer recurrence following therapy. Targeting CSC is a new direction in oncology drug development as a means of preventing cancer recurrence.

### **Further information**

Contact Dr Graham Kelly, Chief Executive Officer.

T: (61 2) 9878 0088

M: (61) 0459 200 095

E: [Graham.Kelly@novogen.com](mailto:Graham.Kelly@novogen.com)

Further information is available on the Company's web site, [www.novogen.com](http://www.novogen.com)