



ASX: NRT  
NASDAQ: NVGN

# Investor Roadshow October 2014



# Forward-Looking Statements

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# Why invest in Novogen?

- ❑ Two proprietary drug technologies. Both with **blockbuster** potential
- ❑ Targeting significant unmet clinical needs capable of expediting approval via **Breakthrough Therapeutic** status
- ❑ One of only a handful of companies with drugs capable of killing cancer stem cells
- ❑ Unique approach globally in developing the next generation of cytotoxic chemotherapies
- ❑ Broad therapeutic potential across cancer, degenerative disorders, autoimmune disease and regenerative medicine
- ❑ Low-cost operation with virtual business model
- ❑ Experienced management team and Board
- ❑ Low entry cost for significant upside potential

# Offer Summary

Offer structure	<ul style="list-style-type: none"><li>• Shareholder approval to issue up to 80 M shares to raise up to \$10M.</li><li>• Offer open to <i>sophisticated investors</i> only.</li><li>• Minimum \$5,000 subscription.</li></ul>
Pricing	Up to maximum 20% discount of 5-day VWAP (Oct 27 <sup>th</sup> – 31 <sup>st</sup> )
Options	<ul style="list-style-type: none"><li>• One option per share</li><li>• Unlisted; can be traded in accordance with section 708 of the Corporations Act (for example to other sophisticated or institutional investors).</li><li>• 1-year term</li><li>• Exercise price will be 90% of the five-day VWAP immediately preceding the issue of the shares pursuant to the exercise of the option</li></ul>
ASX BookBuild	Eligible investors may apply for securities under the code NRTXBB via any ASX broker
Technical Lead Manager	CMC Markets
Stamping fee	ASX brokers will receive a 5% stamping fee on successful allocations
Ranking	All new securities issued under the Offer will rank pari passu with existing securities

# Sources and Uses of Funds

Sources of Funds	
Funds from the Offer (before Offer costs)	A\$7.5 million
R&D rebate (Dec 2014; projected)	A\$1.45 million
Exercise of options	(Assuming SP at 7 Nov 2015 of \$0.15 and 90% uptake) A\$10.8 million
<b>Total cash available following Offer (less Offer costs)</b>	<b>A\$8.7 million</b>
Uses of Funds	
General corporate costs	\$250,000 per month (A\$3 million p.a.)
IND/Phase 1 costs Cantrixil	A\$3.0 million
General R&D program costs	A\$2.2 million
<b>Total</b>	<b>A\$8.2 million</b>



# Timetable

Offer opens	3 November 2014
5-day VWAP	27 October – 31 October 2014
Pricing announced	3 November 2014 (9.00 am)
Trading halt	Novogen intends to seek a trading halt and voluntary suspension of up to 5 days commencing 3 November 2014 to allow for the orderly completion of the subscription process
Offer closes	Novogen reserves the right to close the Offer at any time after 5.00 pm (AEST) on Tuesday 4 November if fully subscribed. Offer will close no later than 3 pm (AEST) on Friday, 7 November 2014
Settlement	T+4 days after the Offer Close via the Chess Primary Market Facility on a DVP basis



# How to Subscribe

There are 2 ways to subscribe

**1. Via your broker and the ASX BookBuild**

You will need to enter into a once-off ASX BookBuild Client Agreement with your broker. Your broker then will make an application on your behalf using the ticker symbol **NRTXBB**

**2. Directly with Novogen**

You can deal directly with Novogen.

Visit [www.novogen.com](http://www.novogen.com) to find the 4 simple steps involved in this process.

# Vision and Mission

## Vision

To become a major global biotechnology R&D company on the back of two first-in-class drug technology platforms across the fields of

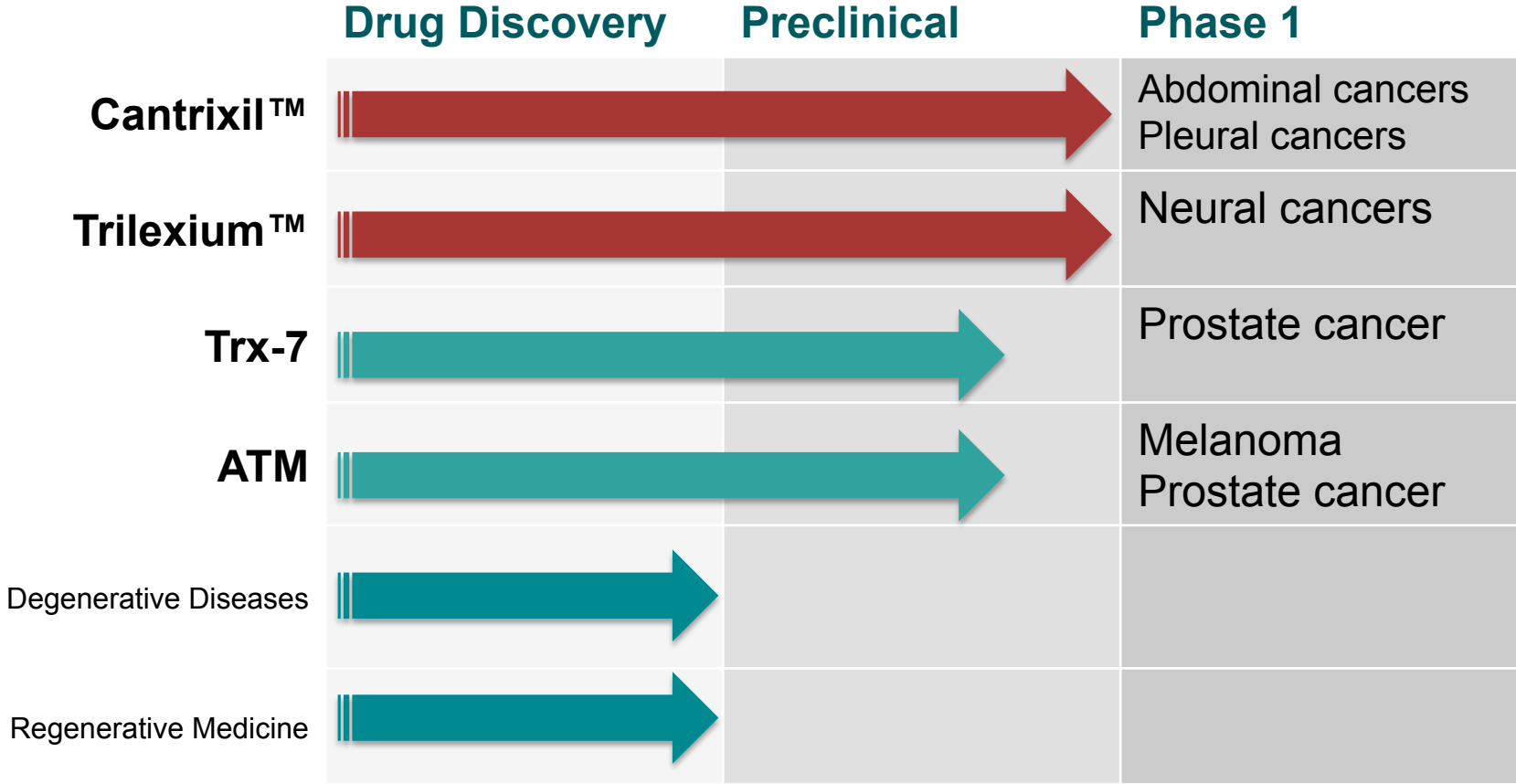
- Oncology
- Degenerative Diseases
- Autoimmune Diseases
- Regenerative Medicine

## Mission

To bring to market new generations of drugs that will offer meaningful clinical benefit to serious community diseases ranging from high-volume indications (eg. prostate cancer) down to low-volume indications (eg. motor neurone disease).



# Pipeline



# Pipeline

Priority Area for Focus

	Drug Discovery	Preclinical	Phase 1
<b>Cantrixil™</b>			Abdominal cancers Pleural cancers
<b>Trilexium™</b>			Neural cancers
<b>Trx-7</b>			Prostate cancer
<b>ATM</b>			Melanoma Prostate cancer
Degenerative Diseases			
Regenerative Medicine			

Yale University

**CanTx Inc.** is a joint venture company between Novogen (85%) and Yale (15%). *The only Australian biotech to have entered into a partnership with a US Ivy League university*



Novogen has licensed **CanTx** to use **TRX-E-002-1**, the first drug with potent activity against both ovarian **cancer stem cells** and **regular ovarian cancer cells**.



**CanTx** has developed **TRX-E-002-1** into **Cantrixil**, an intracavity product intended as:

- first-line therapy for ovarian cancer
- salvage therapy for late-stage ovarian cancer
- salvage therapy for malignant ascites
- salvage therapy for malignant pleural effusion.

# Cantrixil

## *Designed as:*

An intra-cavity product for the treatment of

- intra-abdominal cancers
- intra-pleural cancers

## *Method of use:*

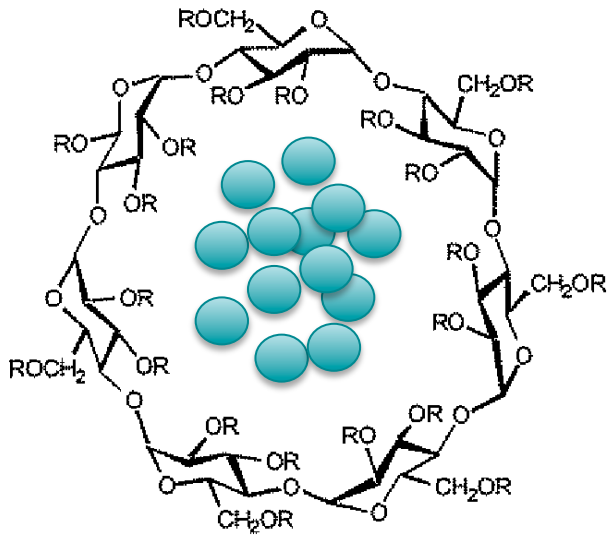
- Intra-cavity infusion
- In combination with cytotoxic chemotherapy

## *Primary clinical indications:*

- Ovarian cancer
- Malignant ascites
- Malignant pleural effusion

## *Rationale:*

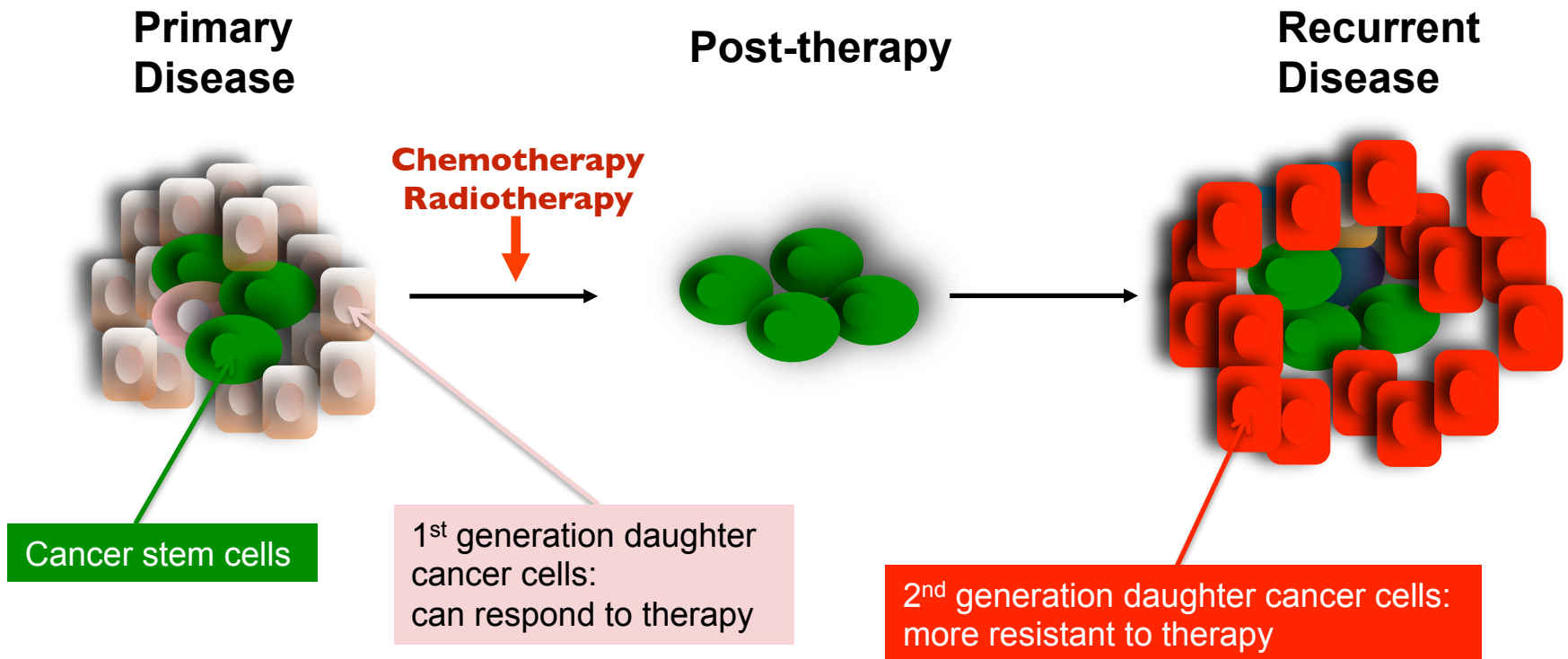
- to destroy the full hierarchy of cells within tumors
- to destroy the cancer stem cells, to prevent tumor recurrence



**It is a construct  
of TRX-E-002-1  
in Captisol**

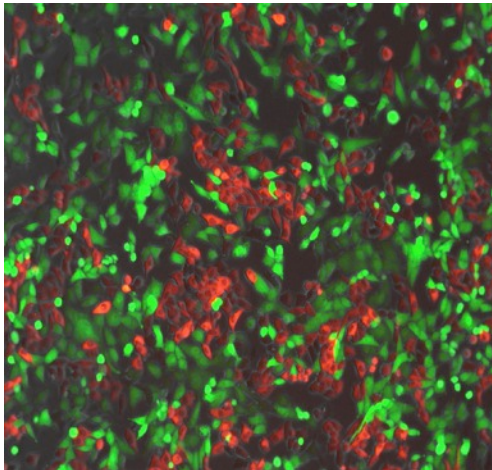
# Cantrixil

Malignant cancer is largely incurable because the cancer stem cells resist therapy and produce recurrent disease

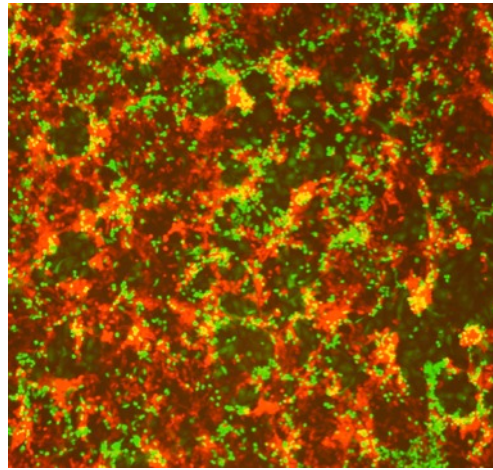


# Cantrixil

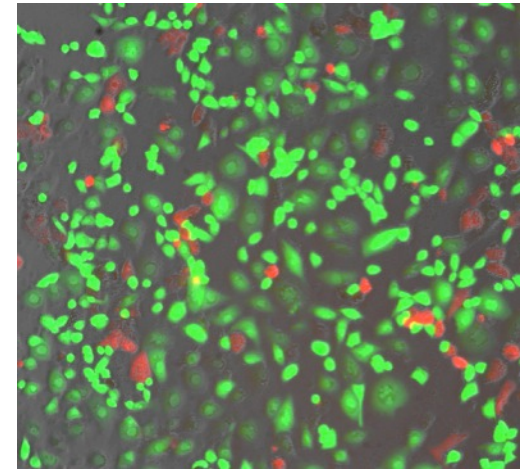
Cancer stem cells are slow-growing and resistant to drugs. Their daughter cells are fast-growing and sensitive to drugs such as Taxol.



Ovarian cancer tumors are composed of slow-dividing cancer stem cells (**GREEN**) and fast-dividing daughter cells (**RED**)



**72-hour culture untreated**  
After 3 days, the **RED** cells dominate due to their more rapid cell division. This mimics the situation in a cancer patient.

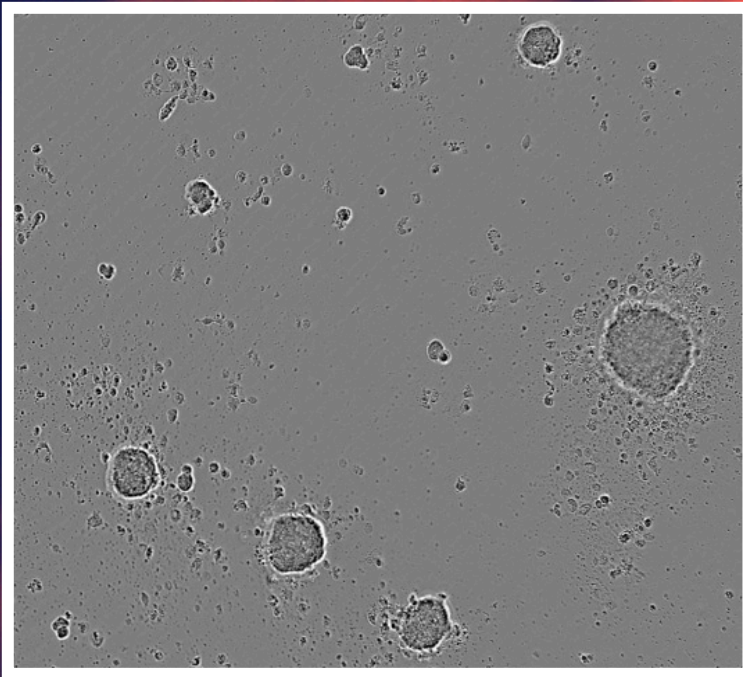


**72-hour culture treated with Taxol**  
Adding Taxol to the culture kills the **RED** cells, but leaves the **GREEN** cancer stem cells unaffected. This also mimics what happens in the patient with ovarian cancer.

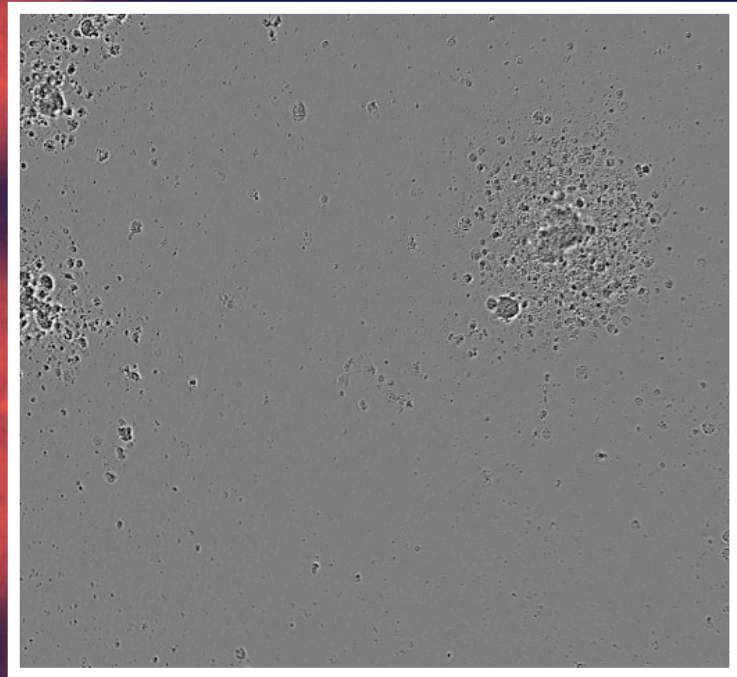
# Cantrixil kills cancer stem cells

3-dimensional spheroids of ovarian cancer stem cells are the structures found in the peritoneal cavity of women with ovarian cancer. These are the means by which the cancer spreads throughout the abdomen. Cantrixil efficiently destroys these spheroids.

Control

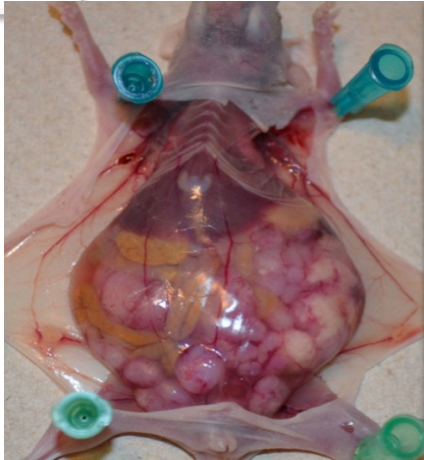


Cantrixil



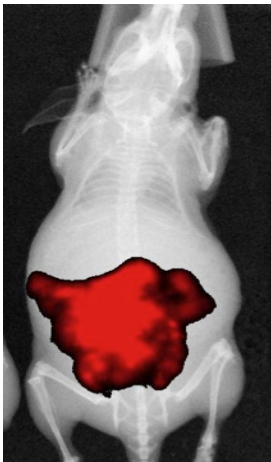
*Human ovarian cancer stem cell spheroids*

# Cantrixil

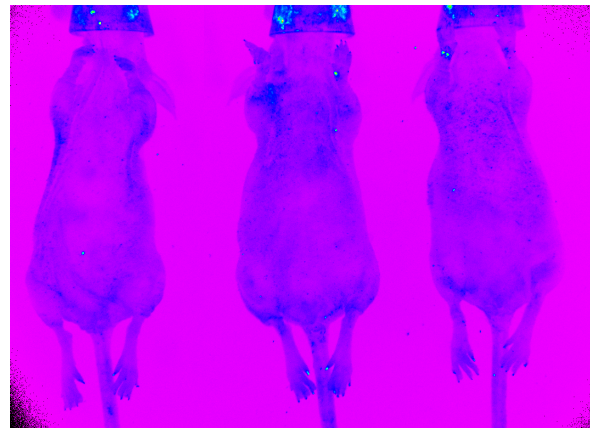


Autopsy of mouse injected with human ovarian cancer stem cell spheroids into the peritoneal cavity showing multiple tumors throughout the abdomen. The tumors in this mouse grew despite treatment with Taxol.

Addition of fluorescent dye to cancer cells allows the growth of the tumors to be monitored by fluoroscopy in living animals



Tumor development shown by fluoroscopy after treatment with Taxol



Cantrixil.  
No tumor development



# Cantrixil

## Projected clinical uses

### **Ultimately:**

Ovarian cancer - **first-line therapy** with carboplatin following diagnosis and surgical debulking.

**Aim: by eradicating the cancer stem cells, to provide durable cancer-free survival.**

### **Now:**

Ovarian cancer – **salvage therapy** in late-stage disease refractory to standard therapy.

**Aim: to destroy the full hierarchy of cells within tumors, thereby recovering patients and providing long-term remission**



### **Phase 1 study:**

- Yale Cancer Center
- Select hospitals in New York/Boston region
- UK hospitals



# Cantrixil

## Projected clinical uses

### ***Ultimately and now:***

Patients with advanced malignant disease of the abdomen (carcinomatosis) associated with malignant ascites.

**Aim: to offer an anti-cancer effect in patients where no standard of care exists and where survival prospects are 3-6 months**



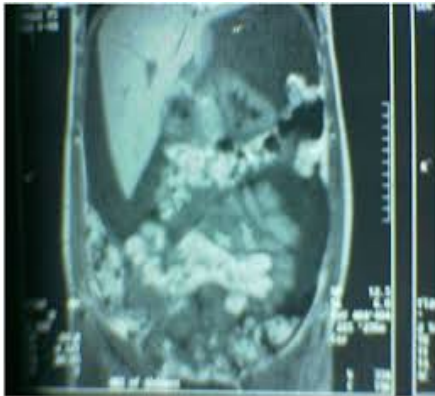
### ***Phase 1 study:***

- *Australian hospitals*

# Cantrixil

## Malignant ascites

- 15-50% of all cancer patients develop malignant ascites.
- No standard of care; currently palliative treatment only.
- 2-6 month median survival time.



- Ovarian cancer
- Gastric cancer
- Colorectal cancer
- Pancreatic cancer
- Breast cancer

## Clinical development strategy & timeline

<u>Phase</u>	<u>Status</u>	<u>Indication</u>	<u>Sites</u>	<u>Start</u>	<u>Finish</u>
IND	current		US	Aug14	May15
Phase 1	3Q15	late-stage ovarian cancer	US/UK	Aug15	Aug16
Pilot study	3Q15	malignant ascites	AUST	Aug15	March16

# Super-Benzopyran Drug Technology

## *Value-drivers*



Feature	Benefit
First molecules to be potentially cytotoxic to cancer stem cells and their daughter cells	Potential to prevent tumor recurrence
Acceptable therapeutic index	Delivering benefit with tolerable toxicity
Unaffected by multi-drug resistance mechanisms Cytotoxic to platinum- and taxane-refractory cancer cells	Clinically applicable to late-stage cancer patients
Strong patent position on basis of composition of matter and use	Unique position in market
Pan anti-cancer activity	Potential utility across most forms of cancer

# Summary

- **Novogen has two first-in-class drug technologies**
  - One technology offering first drugs to **kill cancer stem cells AND their daughter cells** in order to prevent cancer relapse
  - Second technology hitting entirely **new cancer cell target**
- **Two first-in-man trials within 12 months; 4x within 18 months**
- **Proprietary IP**
- **Lean, low-cost operation**
- **Experienced CEO and senior executive team**



# Contact details

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## **Information about ASX Bookbuild**

Information on the ASX Bookbuild Facility can be found on the ASX website on the links below.

### ***For brokers:***

<http://www.asx.com.au/documents/professionals/bookbuild-trading-participant-information-sheet.pdf>

### ***For investors:***

<http://www.asx.com.au/documents/professionals/bookbuild-investor-information-sheet.pdf>



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