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20 December 2016

## ZELDA THERAPEUTICS TO TEST FORMULATIONS AGAINST PANCREATIC CANCER

### HIGHLIGHTS

- ) Zelda expands its pre-clinical cancer activities to include pancreatic cancer
- ) Research programme expected to commence in early 2017
- ) Pancreatic cancer is the twelfth most common cancer globally with over 330,000 new cases diagnosed in 2012<sup>1</sup>
- ) Project seeks to replicate success of Zelda's cannabinoid formulations on breast cancer

Zelda Therapeutics Ltd (ASX: ZLD, "Zelda" or the Company) is pleased to announce that it has entered into a research collaboration agreement with Curtin University.

This collaboration will test a range of Zelda's formulations and protocols against Curtin's suite of in vitro pancreatic cancer models. This is where the cannabis formulations will be tested against human pancreatic cell cancer lines grown in the laboratory.

The aim of this work is to test the impact of Zelda's cannabinoid formulations as stand-alone treatments and in combination with existing chemotherapy drugs such as Abraxane, that is often used to treat pancreatic cancer.

There is a growing body of evidence that whole plant cannabinoid extracts can impede cancer growth and potentially render the tumour more responsive to chemotherapeutic agents. This programme will seek to identify whether Zelda formulations can generate anti-cancer activity both alone and in combination with chemotherapeutic agents.

Pancreatic cancer is the twelfth most common cancer globally, with over 330,000 diagnoses in 2012<sup>1</sup>. In Australia alone, it is estimated that there will be over 3,000 diagnoses this year (2016)<sup>2</sup>. With a very low five year survival rate, the pancreatic cancer market will greatly benefit from further research and development using novel approaches.

Curtin's Professor Marco Falasca, from the School of Biomedical Sciences, and his team are experts in the investigation of cell signalling pathways, such as those found in cancerous tumour cells that are responsible for regulating the internal cellular processes where the uncontrolled growth begins.

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<sup>1</sup> Source: [Pancreatic Cancer World Research Fund International](#)

<sup>2</sup> Source: [Australian Government Cancer Council](#)

In recent years, Professor Falasca and his team have discovered that 'lipid signaling' is over-activated in the initial stages of pancreatic cancer, and this in turn promotes the growth of cancerous cells. They have also discovered a novel mechanism that uses ABC transporters and G-protein coupled receptors (important proteins located on the surface of cells) that can halt cancer progression and cell signaling.

The Company will be testing Zelda's formulations using these recent discoveries against specific receptors and looking to replicate the positive effects observed in its breast cancer research program (see announcement dated 30 November 2016). Zelda expects these trials to commence in early 2017, with results to follow thereafter.

Zelda intends sourcing the cannabinoid research material via a supply agreement with AusCann Group Holdings Ltd (AusCann). AusCann has a partnership with the world's largest medical cannabis cultivator and processor - Canadian group Canopy Growth Corporation (Canopy). Subject to AusCann securing the appropriate import permits, and Canopy securing an export permit, this material will be sourced from Canada and supplied to Curtin University for the approved research purposes. These research activities fall within the recently passed Australian Narcotics Drug Amendment Act and re-scheduling of cannabis from Schedule 9 (prohibited substance) to Schedule 8 (controlled drug) under the Poisons Standard.

Executive Chairman Harry Karelis stated:

"The pancreatic cancer market is an important market for many reasons. Not only is it one of the most common cancers but the survival rates are astoundingly low and we at Zelda are hopeful of demonstrating anti-cancer activity in this area.

"This collaboration builds on the existing partnership with Professor Manuel Guzmán and Professor Cristina Sánchez at Complutense University, who are both considered the leaders in the field of anti-cancer effects of cannabinoids. Positive results from this work will lay the foundation for progression into further anti-cancer studies and is expected to generate new intellectual property for the Company."

Professor Marco Falasca stated:

"After years of slow progress in the field of pancreatic cancer treatment, we hope to finally open the path to new therapies for pancreatic cancer."

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About Zelda Therapeutics ([www.zeldatherapeutics.com](http://www.zeldatherapeutics.com))

Zelda Therapeutics ("Zelda") is an Australian-based bio-pharmaceutical company that has secured exclusive, global access to an extensive set of human data related to medicinal cannabis based formulations and treatment protocols. This human data has been generated over several years by a California-based group (Aunt Zelda's) that has a very high profile within the USA and a growing international profile based upon its deep knowledge of the scientific rationale for certain cannabis-based formulations and protocols to treat a variety of medical conditions.

Zelda has been granted a worldwide, exclusive and perpetual licence to this data, related systems, formulations and treatment protocols. Zelda will use this information to design a series of human clinical

trials that have a high probability of success given the existing patient data and experiences it has access to.

In addition, Zelda has partnered with the world's leading cancer cannabis researchers at Complutense University Madrid in Spain to conduct certain pre-clinical work testing cannabis-based formulations known to have an effect in humans in order to generate data packs in a form expected by regulators and the pharmaceutical industry.

#### About Professor Marco Falasca

Professor Marco Falasca from Curtin's School of Biomedical Sciences is leading a team committed to finding cures and treatments for patients with chronic diseases, in particular challenging illnesses, such as pancreatic cancer.

His current focus is on the role of metabolism in the pancreatic function, specifically intracellular signals regulated by specific lipids that act as 'second messengers' inside a cell to control a plethora of cellular functions, including cell growth, proliferation and metabolism.

Funded by European Union Research Funding, Diabetes UK, British Heart Foundation, Pancreatic Cancer Research Fund and Prostate Cancer UK, among others, Professor Falasca and his team have studied how lipid signalling acts in cancer. Their findings have included an understanding that from the initial stages of pancreatic cancer, lipid signalling is hyperactivated, and this in turn affects the proliferation of cells. Finding a means of blocking the hyperactivated signals could assist in halting or degrading the proliferation of cancerous cells, slowing or stopping the spread of the disease.

"We are paying particular attention to lipids known as phosphoinositides, such as Lysophosphatidylinositol (LPI), that can themselves act as, or be converted into, messengers, ultimately regulating several cellular functions. In recent years, our work on proteins involved in LPI mechanism of action, such as ABC transporters and G protein-coupled receptors, has revealed a novel mechanism for these proteins in cancer progression and cell signalling. LPI is a bioactive lipid that is able to activate signalling cascades relevant to cell proliferation, migration, survival and tumourigenesis," Professor Falasca explains.

This enhanced understanding of the pivotal role that LPI signalling and its effect on G protein-coupled receptors plays in the progress of cancer, has advanced to the point where Professor Falasca and his team have been able to test various drug combinations aimed at breaking that nexus, and perhaps halting the proliferation of cancerous cells.

#### About Curtin University

Curtin University is Western Australia's largest university, with more than 57,000 students. Of these, over 15,000 are international students. The University's main campus is in Bentley near the centre of Perth, WA. Curtin has five other campuses across the WA, Malaysia and Singapore, and presence at a number of other global locations.

The University is an internationally focused institution which offers a wide range of undergraduate and postgraduate courses in business, humanities, health sciences, resources, engineering and related sciences.

Curtin has close links with business, industry, government and the community, and its courses have a strong practical focus, with many involving vocational or work experience components.

#### About Pancreatic Cancer

Pancreatic cancer is one of the most lethal diseases in Australia today. Although it is currently the eleventh most prevalent cancer diagnosed in the country, it is difficult to detect in the early stages, and once established, is highly aggressive and results in a high mortality rate. Resistant to both chemo and radiotherapy, a pancreatic cancer diagnosis presents the physician with few, if any, effective treatment options. Of around three thousand new cases of pancreatic cancer diagnoses nationally in 2015, only six per cent of sufferers will survive to five years following diagnosis. There is an urgent need to understand more about how this disease is initiated and proliferates, in order to develop treatments and cures.