



ElaCor Pty Ltd

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Developing novel treatments for congestive heart failure

The Opportunity

ElaCor is a spin-off company from IMBcom Pty Ltd, the commercialisation company for the Institute for Molecular Bioscience at the University of Queensland and the Baker Heart Research Institute. ElaCor is focused on developing a novel and effective therapy for congestive heart failure (CHF).

Natriuretic peptides (NP's) are part of the body's natural response to heart failure. As such they have been adopted as therapeutic agents for the disease. However, human NP's have a number of inadequacies as drugs including instability and limited bioavailability and efficacy which restrict their usefulness for treating chronic CHF.

There is a demonstrated need for new NP therapeutics with improved characteristics that

will enable entry into the chronic CHF market.

The ElaCor technology is based on the discovery of a group of novel NPs isolated from the venom of the Taipan snake. The lead

compound shows great promise as a cardiac heart failure therapeutic as it is highly potent and outperforms human NPs in *in vitro* and

animal studies. This novel biotechnology has the

potential to be an effective competitor in the acute CHF market. Moreover, the

remarkable stability of the lead compound provides a sound basis for its development as a drug to treat chronic CHF patients out of hospital.



Background

CHF is an often fatal condition in which the heart muscle becomes weakened and lacks the strength to adequately pump blood through the body. CHF is usually a chronic disease - a long-term condition that gradually becomes worse. Conversely, acute CHF has a sudden and severe onset and requires immediate hospitalisation

CHF is drastically increasing in prevalence all over the world and now causes more than

10,000 deaths per year in Australia and more than 260,000 deaths per year in the US.

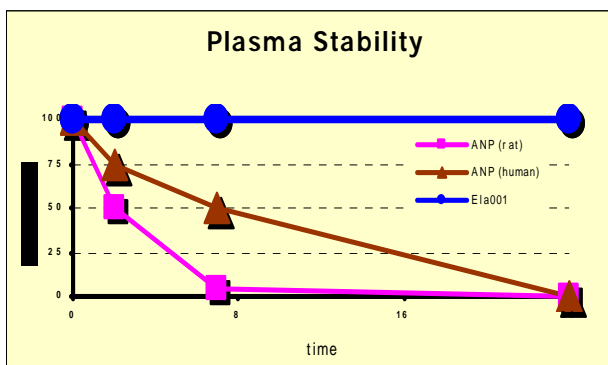
Over 5 million people in the US currently suffer from CHF, with 550,000 new cases being diagnosed annually. In Australia over 300,000 people suffer from CHF, and more than 400 new cases are diagnosed each week.

CHF is a cause of long term disability and necessitates ongoing treatment. Accordingly, it is a common reason for consultations with general practitioners and causes a high level of hospitalisation. Hospital expenses for the treatment of CHF are more than double those for all forms of cancer combined.



Data

- *In vitro* examination shows that ElaCor's lead compound is equipotent to human ANP in relaxing pre-contracted aortic rings of Sprague-Dawley rats.
- *In vivo* animal studies show the lead compound is equipotent in lowering blood pressure and facilitating cardiac vagal afferent reflexes but has a longer duration of action than known NPs
- Preliminary studies show that the Taipan peptides are significantly more stable *in vivo* than their human counterparts.
- The Taipan peptides may provide a more practical long-term treatment for heart failure.



Intellectual Property

The intellectual property is currently jointly owned by the University of QLD and BHRl is licensed exclusively to ElaCor. A provisional patent was filed in 2004 (USA) covering the lead compound and related derivatives.

An extensive novelty search of the patent and scientific literature has provided ElaCor with a measure of confidence that the patent position is distinct from the prior art in terms of both novelty and inventiveness.



ElaCor Competitive Advantages

A novel lead compound which is potent at lowering blood pressure and significantly more stable. An in-house technology development program aims to deliver candidates based on the lead compound for multiple routes of administration.

Skills

IMB - University of Queensland:

- Peptide chemistry and design
- Pharmacology and cell-based assays
- Stability testing
- Structure-Activity Relationships

Baker Heart Research Institute:

- Animal models to measure effects on blood pressure and heart rate
- Large and small animal models of CHF
- Radiotelemetry and echocardiography
- Links to clinical patient groups

Investment

ElaCor is currently actively seeking investment into the company to accelerate the preclinical development of the lead compound and fund the clinical trials.



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