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Repurposing Dabuzalgron to Prevent and Treat Cardiomyopathy and Heart Failure

Tech ID: 26004 / UC Case 2015-081-0

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INVENTORS

- ▶ Jensen, Brian C.
- ▶ Simpson, Paul Jr C.

OTHER INFORMATION

KEYWORDS

Alpha-1A-adrenergic
receptor, Adrenergic receptor
agonist, Heart failure, Heart
disease, Heart muscle
disease, Cardiomyopathy,
Myocardial dysfunction

CATEGORIZED AS

- ▶ **Medical**
 - ▶ **Disease:**
 - Cardiovascular and
Circulatory System
 - ▶ **Therapeutics**

RELATED CASES

2015-081-0, 2012-207-0

INVENTION NOVELTY

Using an alpha-1A-adrenergic receptor agonist, dabuzalgron, as a therapeutic treatment for cardiomyopathy and heart failure.

VALUE PROPOSITION

As potentially debilitating and life-threatening conditions, cardiomyopathy and heart failure (HF) are major medical problems worldwide. In the US alone, nearly 6 million people suffer from HF. As the incidence of these diseases increases with age, the burden of these diseases will likely only increase as elderly populations continue to grow. Around 1 million American patients are hospitalized with HF each year and current treatment options are ineffective in keeping these patients out of the hospital as readmission rates within 6 months of discharge remain high.

This new treatment improves upon current cardiomyopathy and heart failure drugs in several ways, including:

- ▶ Does not cause low blood pressure, a common side effect of currently available drugs
- ▶ Prevents heart muscle cell death and repairs injury

Additionally, this drug is attractive to develop for heart disease as it is:

- ▶ Administered in a quantity that is measurable in the blood, which is clinically useful
- ▶ Has completed pharmacokinetic and toxicology studies
- ▶ Already tested in humans for a genitourinary indication

TECHNOLOGY DESCRIPTION

Dr. Paul Simpson Jr. at University of California, San Francisco and Dr. Brain C Jensen at University of North Carolina - Chapel Hill have identified and developed a new indication for dabuzalgron: prevention and treatment of cardiomyopathy and heart failure. Dabuzalgron is an alpha-1A-adrenergic receptor agonist that can stimulate smooth muscle contraction in higher doses; however, in this invention, the drug is used at doses below those found to have an effect on smooth muscle contraction and blood pressure. These researchers have shown that dabuzalgron leads to a variety of beneficial intracellular processes in heart muscle cells, including mechanisms that protect the cell from injury or death. Dabuzalgron also could be used to protect the heart from cancer-induced cardiomyopathy.

LOOKING FOR PARTNERS

To develop & commercialize the technology as a novel heart disease therapeutic

STAGE OF DEVELOPMENT

Preclinical

RELATED MATERIALS

- ▶ In progress

DATA AVAILABILITY

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	11,213,514	01/04/2022	2015-081

RELATED TECHNOLOGIES

► [A Small Molecule Alpha-1-Adrenergic Receptor Agonist For Treating and Preventing Heart Muscle Diseases](#)

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