

## Method to Inhibit Pancreatic Enzyme Implicated in Diabetes

*Novel method for discovery of Diabetic therapeutic/preventative drug*

**Intellectual Property  
ID Number**

241

**Contact**

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**Inventor**

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**Field**

Diabetes

**Technology**

Method to screen for  
therapeutic to treat or prevent  
diabetes

**Key Benefits**

- New Diabetic therapeutic target
- May help in discovery of drugs to increase pancreatic  $\beta$  cell function
- Therapeutics found may also be protective in pre-diabetic state

**Stage of Development**

Enzyme inhibition shown to be protective in cell lines and *ex vivo* human pancreatic  $\beta$  cells.

**Status**

Seeking licensing partner and/or sponsored research

**Patent Status**

Patent pending

### Diabetes Pharmaceutical Screening Method

The invention covers the methods of inhibiting an enzyme implicated in damage to the pancreatic  $\beta$  cells responsible for insulin production. Experiments with cell lines and *ex vivo* human  $\beta$  pancreatic cells showed that inhibiting this enzyme prevented cellular dysfunction and cell death from the inflammatory cytokines seen in the diabetic state. The resulting pharmaceutical could theoretically increase the cell mass of insulin secreting  $\beta$  cells, leading to a treatment for a diabetic pancreas, act to prevent further damage, or even be protective in a situation where a patient is in a pre-diabetic state before the onset of serious secondary complications.

### Market

The global type 2 diabetes pharmaceutical markets were \$28.1 billion in 2012. The CDC states diabetes costs \$174 billion each year. The UnitedHealth Group projected diabetes will cost the US \$3.35 trillion over the next ten years. The disease is the seventh-leading cause of death in the United States, a figure which doesn't account for the complications that lead to stroke or heart attack. Most adults are currently treated with pills or insulin to help stabilize blood glucose levels. NIH studies from 2005-2008, showed 35% of adult Americans were in a pre-diabetic state. That number increased to 50% in the population 65 years and older. It is estimated that this would translate into 79 million people in the US being pre-diabetic by the year 2010. This population would greatly benefit by being treated before permanent damage occurs. This represents a large and growing market for new methods to treat and prevent the pancreatic damage seen with the diabetic and pre-diabetic states.

### Opportunity

EVMS is seeking sponsored research and/or licensing partners to commercialize this technology.