



THE UNIVERSITY of TEXAS

HEALTH SCIENCE CENTER AT HOUSTON

Office of Technology Management

**SMALL BIOMOLECULE WITH POTENTIAL THERAPEUTIC USE IN TRAUMA,
DIABETES, OBESITY, CARDIAC DISEASE, AND INDUCTION OF
HYPOTHERMIA**

Market: There is an overwhelmingly large market demand for therapeutic compounds that can manipulate metabolism and body temperature. Potential applications include field use to treat shock and trauma, as well as more traditional use for treating diabetes and obesity, as well as cardiac disease. Interesting surgical applications may be possible by chemically inducing hyperthermia in patients.

There are more than 150 million diabetics worldwide. In the US, 16 million people suffer from type 2 diabetes (Prosidion). The diabetes drug market is expected to reach \$26.8 billion by 2007. Cardiac arrhythmias affect more than 5 million people in the U.S., resulting in 1.2 million hospitalizations and 400,000 deaths (Medtech Insight, 2005). The WHO estimated 300 million obese adults worldwide in 2000. At least 25 million Americans are obese. Global sales of obesity treatments are expected to be more than \$1.5 billion this year (Nicholas Hall & Co.).

Competitors and Current Problems: Many of the pharmaceuticals used to treat obesity, diabetes, and cardiac arrhythmia have side-effects that must be carefully balanced against the need for the therapy.

The Technology: The University of Texas Health Science Center scientists identified a small biomolecule effective in quickly reducing core body temperature, modulating metabolism, and inducing torpor and even a state of suspended animation. Mouse studies showed dose-dependent temperature control and suspended animation, as well as at lower doses reduced feeding behavior and weight reduction. No side effects were observed within therapeutic dosing ranges. The composition has ready advantages over current pharmaceuticals. It is easily soluble in water and is cheaply manufactured.. It works very quickly and efficaciously. In summary, it is faster, cheaper, and potentially better than available therapies for the indications mentioned above.

Publications: Nature. 2006 Jan 19;439(7074):340-3.
Annu Rev Med. 2008;59:177-86.

NON-CONFIDENTIAL TECHNOLOGY DESCRIPTION

The preceding is intended to be a non-confidential summary of a novel technology created at the University of Texas Health Science center at Houston (UTHSCH), for which the University has obtained patent protection.

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Patent Status: pending

License Available: world-wide; exclusive or non-exclusive

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