

Technology Overview

Title: Method to Enhance Proteasome Function via Increasing a Proteasome Activator

Reference:	0820
Summary:	University of South Dakota researchers have discovered a useful method to improve the ubiquitin-proteasome system function of cells, with potential applications in treatment of conformational diseases such as Type II diabetes and congestive heart disease.
Description:	<p>The ubiquitin-proteasome system (UPS) plays an indispensable role in many cellular processes including protein quality control and cell cycle regulation. UPS malfunction is associated with the development of a number of human diseases, especially the conformational diseases, such as most of the neural degenerative diseases, amyloidosis, type II diabetes, and even congestive heart failure, to just name a few. Our research has developed a method to increase the levels of a proteasome activator to effectively enhance proteolytic function.</p> <p>The method has been demonstrated in both tissue culture and intact mice by transgenesis and a UPS reporter system. We have also found that commercially available drugs may be employed to achieve overexpression of the activator. These discoveries can potentially be employed to develop new therapies for many life- threatening diseases.</p>
Advantage:	<ul style="list-style-type: none">-- Useful in treatment of a range of conformational diseases-- Potential applications for both genetic and drug therapies
Application:	Pharmaceuticals, medical therapies, medical research
Stage:	Proof of concept established. Seeking commercial partner for applied research and commercialization of the technology.
Patents:	IP protection under review.
License Associate:	Brian Mathers, Director of Research Development E-mail brian.mathers@usd.edu Phone: 605-677-5370
Keywords:	Medical research, conformational diseases, ubiquitin-proteasome system, neural degenerative diseases