

Scientists Locate Revved Up Chemical That Mimics Red Wine

November 30 2007, by Mary Anne Simpson

Scientists at Sirtris Pharmaceuticals have conducted research on fattened rodents to test the utility of a chemical that mimics resveratrol. Resveratrol is a key compound in red wine. After examining 500 thousand compounds, the scientists located a compound that is a thousand times more potent. Human studies will begin in 2008. The results could lead to treatment for Diabetes and other age related cell degeneration diseases.

Scientists at the Sirtris Pharmaceuticals in Cambridge, Massachusetts under the direction of Christoph Wesphal have located chemicals that mimic resveratrol, the key ingredient in red wine. The Sirtris scientists published their findings in the current update of Nature-Signaling Gateway on November 30, 2007.

Previous studies on the positive effects of the chemical resveratrol found in red wine find that it acts as protection against fatty diets and resultant cell degeneration that occurs in the aging process. The main problem with resveratrol is that it takes a large amount of the chemical for humans or animals to appreciate the effect.

The scientists at Sirtris Pharmaceuticals have discovered chemicals that mimic resveratrol, but may be taken at low dosages with little or no side-effects in their controlled studies. The tests currently with mice have achieved remarkable success in treating Type 1 and Type 2 Diabetes. It should be noted that scientists have established that resveratrol has been found to reduce the harmful effect of gluttony and enhances healthy

livers and low insulin levels.

It is believed by the scientists that the chemical compound resveratrol has the ability to activate a protein that effects metabolism. This protein is called Sirt1. The scientists embarked on a mission to find a chemical compound that could revup the process and therby reduce the inordinate dosage requirements. Recent health warnings in the use of the drug Avandia used in the treatment for Diabetes makes this research effort timely.

The scientific team examined nearly 500 thousand chemical compounds in their search. The result of the study is SRT 1720. a chemical that is about a thousand times more potent than Sirt 1 in lab tests. The research was conducted using fattened rodents. Some were given the SRT 1720 compound and others were not. The results of the study indicate that the fattened rodents provided the SRT 1720 there was a reduction in blood sugar levels fell in comparison to the non-treated fattened rodents.

According to the Nature article, the significance of this study is that it may lead to other kinds of human diseases. Sirtris consultant, Leonard Guarante from the Massachusetts Institute of Technology believes that activating the protein could forestall cell damage that occurs in the aging process that is deemed to lead to cancer, Alzheimer's and heart disease.

Human trials are expected to begin in 2008. If all goes well, the medical and pharmaceutical community could be on the brink of discovering alternatives to treating debilitating diseases.

For further reading: See Baur, J. et al. *Nature* 444, 337-342 (2007)
Milne, J. et al. *Nature* 450, 712-716 (2007)

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