

Rosemary chicken protects your brain from free radicals

October 30 2007

Rosemary not only tastes good in culinary dishes such as Rosemary chicken and lamb, but scientists have now found it is also good for your brain. A collaborative group from the Burnham Institute for Medical Research (Burnham Institute) in La Jolla, CA and in Japan, report that the herb rosemary contains an ingredient that fights off free radical damage in the brain.

The active ingredient in rosemary, known as carnosic acid (CA), can protect the brain from stroke and neurodegeneration that is due to injurious chemical free radicals. These radicals are thought to contribute not only to stroke and neurodegenerative conditions such as Alzheimer's, but also to the ill effects of normal aging on the brain.

In two expedited publications by *The Journal of Neurochemistry* and *Nature Reviews Neuroscience*, the scientists report for the first time that CA activates a novel signaling pathway that protects brain cells from the ravages of free radicals. In animal models, the scientific group, led by Drs. Takumi Satoh (Iwate University, Japan) and Stuart Lipton (Burnham Institute), found that CA becomes activated by the free radical damage itself, remaining innocuous unless needed, exactly what is wanted in a drug.

The scientists call this type of action a “pathological-activated therapeutic” or PAT drug. A “pat” represents a gentle tap and not the heavy sledge hammer that some drugs produce, including significant side effects in areas of the body where their effects are not needed and not

wanted.

“This new type of drug works through a mechanism known as redox chemistry in which electrons are transferred from one molecule to another in order to activate the body’s own defense system,” said Stuart A. Lipton, MD, PhD, the senior author on the paper and Director, Professor, and Senior Vice President at the Burnham’s Del E. Webb Neuroscience, Aging, and Stem Cell Research Center.

“Moreover, unlike most new drugs, this type of compound may well be safe and clinically tolerated because it is present in a naturally-occurring herb that is known to get into the brain and has been consumed by people for over a thousand years.” Dr. Lipton is also a practicing neurologist at the University of California, San Diego, and therefore knows first-hand that such drugs are critically needed for care of the aging and neurologically-ill patients.

Rosemary is a shrubby evergreen bush and, according to folklore, takes its name from the Virgin Mary, who draped her cloak on the bush, placing a white flower on top of the cloak. By the following morning, the flower had turned blue, and thereafter the plant was known as the “Rose of Mary.” Rosemary, grown in the Alps since the Middle Ages, has become part of European folk medicine, and was thought to help the nervous system and ward off sickness.

Until now, however, the exact chemical pathways involved in its beneficial effects have remained unknown. Additionally, the new scientific work, identifying the compound in rosemary that is beneficial, should allow even better and more effective drugs in this class to be developed in the near future. Along these lines, Satoh and Lipton have filed a United States patent application for a whole series of novel compounds that show increased benefits over rosemary itself.

“This is not to say that Rosemary chicken is not good for you,” said Dr. Satoh, “but it means that we can do even better in protecting the brain from terrible disorders such as Alzheimer’s and Lou Gehrig’s disease, perhaps even slowing down the effects of normal aging, by developing new and improved cousins to the active ingredient in rosemary.” The authors hope that such drugs can be developed for people over the next few years.

Source: Burnham Institute

Citation: Rosemary chicken protects your brain from free radicals (2007, October 30) retrieved 4 July 2023 from <https://medicalxpress.com/news/2007-10-rosemary-chicken-brain-free-radicals.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.