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# FOOD FOR THOUGHT

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# A Long Life with Peanuts



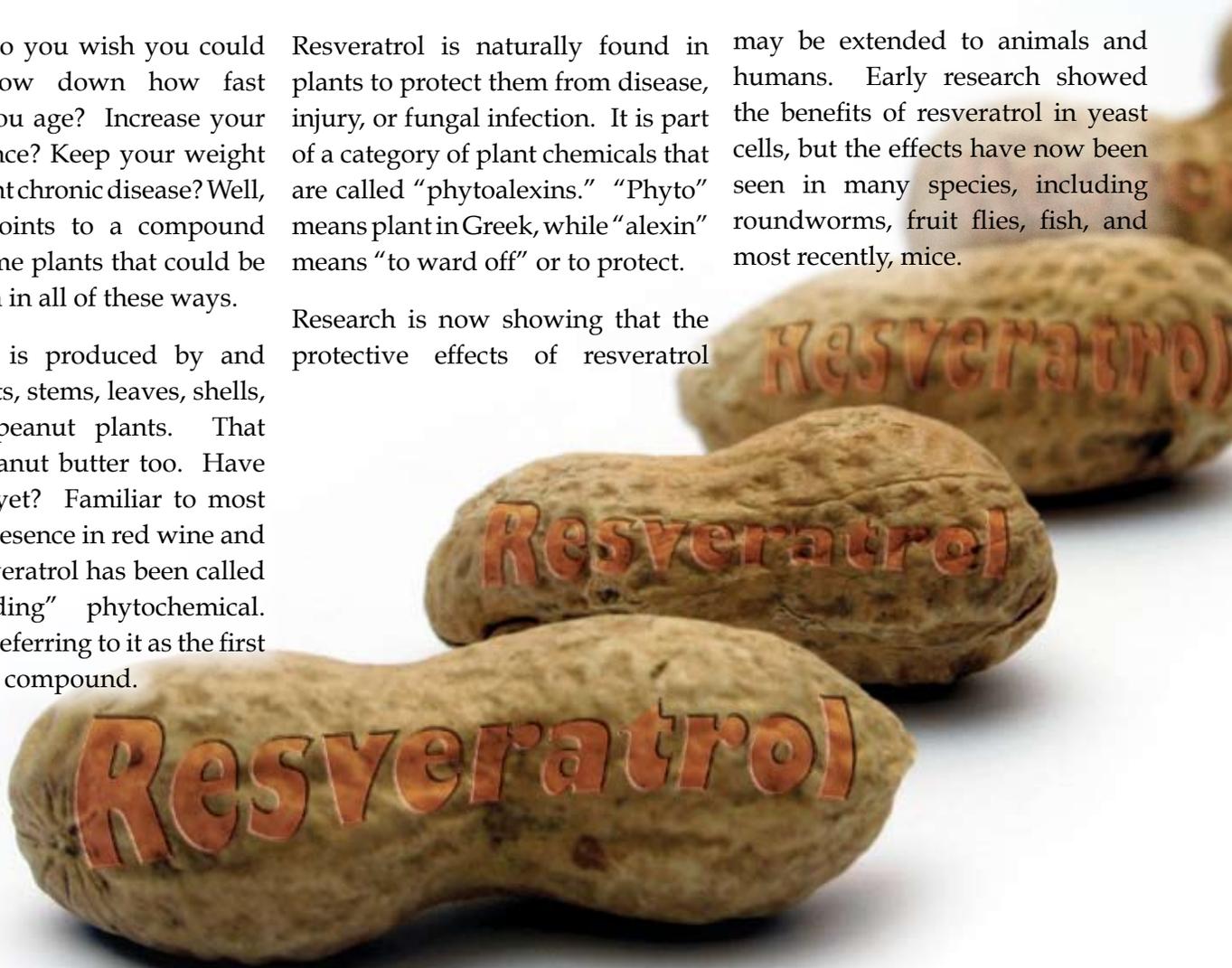
Do you wish you could slow down how fast you age? Increase your exercise endurance? Keep your weight down and prevent chronic disease? Well, new research points to a compound produced by some plants that could be impacting health in all of these ways.

The compound is produced by and found in the roots, stems, leaves, shells, and seeds of peanut plants. That means it's in peanut butter too. Have you guessed it yet? Familiar to most because of its presence in red wine and grape skins, resveratrol has been called the "life-extending" phytochemical. Researchers are referring to it as the first major anti-aging compound.

Resveratrol is naturally found in plants to protect them from disease, injury, or fungal infection. It is part of a category of plant chemicals that are called "phytoalexins." "Phyto" means plant in Greek, while "alexin" means "to ward off" or to protect.

Research is now showing that the protective effects of resveratrol

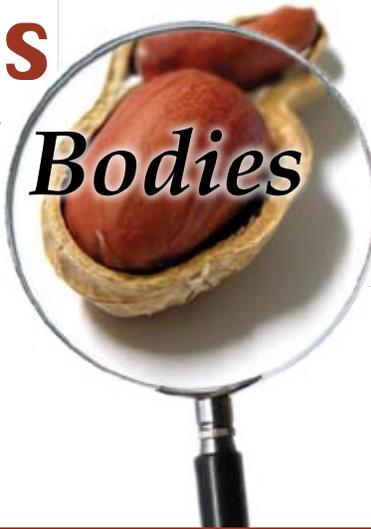
may be extended to animals and humans. Early research showed the benefits of resveratrol in yeast cells, but the effects have now been seen in many species, including roundworms, fruit flies, fish, and most recently, mice.



# The Undercover Compounds in Peanuts

*An Effect Throughout our*

*Bodies*



The next time you eat peanuts, enjoy a peanut butter sandwich or peanut satay, think about how such a tasty food can provide so much nutrition to your body. As many of you know, peanuts contain many healthy fats, are high in protein, fiber, and positively affect blood sugar keeping it more stable. They also have many vitamins and minerals that help us get the nutrients we need. But what is overlooked is that they are also filled with bioactive plant compounds, such as resveratrol.

The research on resveratrol has shown that it is a compound that works by several different mechanisms and it has beneficial effects in many different parts of the body. How these benefits occur at the molecular and cellular level is still being determined.

## Cardiovascular Benefits

In the test tube, resveratrol has exerted a number of cardioprotective effects. Studies have shown resveratrol to inhibit blood clots<sup>12</sup>, which are known to contribute to heart attacks and strokes. Resveratrol has also been shown

to enhance the production of nitric oxide, which is a chemical that helps to keep arteries relaxed, allowing for improved blood flow<sup>3,4</sup>. Research shows it helps decrease the risk of clogged arteries in various other ways too<sup>5,6,7,8</sup>.

**Oxidative Stress** Resveratrol has been shown to act as an antioxidant. It scavenges free radicals and inhibits the oxidation of low density lipoprotein (LDL)<sup>9,10</sup>. Although the antioxidant activity has not been fully studied in humans, there is promising evidence in rats showing that resveratrol treatment significantly improves diabetic neuropathy through possible reduction in oxidative stress<sup>11</sup>. Diabetic neuropathy is one of the most common complications affecting diabetics. It affects more than 50-60% and is a common cause of amputation.

**Neurodegenerative Disorders** Evidence has shown that resveratrol may be beneficial against nerve degeneration in diseases such as Huntington's, Parkinson's, Alzheimer's, and

stroke. Resveratrol had a protective effect on nerves and promoted clearance of proteins involved in Alzheimer's in cell studies<sup>12,13</sup>. Cognitive ability was also improved in Alzheimer mice given resveratrol<sup>14</sup>.

**Cancer** Resveratrol has been found to increase the expression and activity of enzymes that help rid the body of potentially toxic carcinogenic compounds<sup>16</sup>. It's also been shown to help in the fight against cancer cells that rapidly grow, by stopping them<sup>17</sup>. Furthermore, cancer cells in the body can also develop their own blood supply, which helps them to survive, but resveratrol has been shown to stop this process<sup>18,19</sup>. A number of human studies are currently underway to evaluate the role of resveratrol in cancer prevention<sup>20</sup>.

**Inflammation** New research is showing that the common denominator in many chronic diseases is inflammation. Inflammation contributes to chronic diseases such as cardiovascular disease and cancer through various mechanisms. Resveratrol has been found to inhibit the activity of several inflammatory compounds in the test tube such as cyclooxygenase<sup>21,22</sup>. In humans, resveratrol has been shown to inhibit the release of inflammatory compounds in smokers and in non-smokers in the lung condition, "chronic obstructive pulmonary disease"<sup>23</sup>.

**Weight Control, Exercise Endurance, Anti-aging** The health benefits of resveratrol have been shown to be effective in evolutionarily distant species, and most recently, in mice<sup>24,25,26</sup>. In middle-aged mice eating high-calorie, fattening diets, resveratrol promoted a longer life span and showed increased survival similar to that of calorie restriction. The mice fed resveratrol kept their weights down compared to the control mice, and had doubled the running endurance. Imagine that!

# Anti Aging Sandwich



Eat for youth with this simple sensible sandwich that fills you up and tastes great! Whether you go crunchy or smooth, peanut butter 'spreads' a super supply of nutrients, and energy.

**1 cup Smooth or chunky peanut butter**  
**1 1/2 cup Blueberries**

Combine all of the ingredients with a fork, a food processor or your mixer. Spread on whole wheat bread for a sandwich, or on apple slices for a delicious treat. For added texture drop some whole blueberries into your spread. Store your peanut butter spread in a sealed container in the fridge.

# How Much Resveratrol is in Peanuts & Peanut Butter

The amount of resveratrol in peanuts and peanut butter ranges depending on the type of peanut and how it has been processed. The roots, stems, leaves, and shells also contain resveratrol in varying amounts. Ultraviolet light exposure and stresses such as slicing actually increase the amount of resveratrol found in peanuts<sup>27</sup>. The skins of peanuts are high in plant chemicals that act as potent antioxidants, including resveratrol<sup>28</sup>, so eating peanuts with the reddish coats adds to the nutrition you can get in your diet.

In fact, if you've ever looked closely at your spoonful of peanut butter, the dark flecks you see are ground up peanut skins. Most of the skins are removed before grinding peanuts into peanut butter to provide us with the taste we are familiar with, but some of the nutritious skins remain.

The resveratrol studies that have been done in mice used "pharmacologic" levels. This means that the levels were



much higher than what could be naturally found in foods. The levels of resveratrol in peanuts, peanut butter, and red wine, therefore, are "physiological." It will take additional research to see how resveratrol and other compounds in peanuts and peanut butter are working in our bodies individually and together, but resveratrol is such a potent substance that it may be one of the reasons eating just a small amount of peanuts daily provides such strong health effects.

	micrograms/gram
<b>Resveratrol</b>	
Just like eating a potato or an apple with their skins on - eating peanuts with their protective skins can boost your nutrient intake.	
Roasted Peanuts	0.02 - 1.79
Boiled Peanuts	5.14
Peanut Butter	0.32 - 0.65

references 29,30,31

# The Full Package

Population studies have shown that peanut eaters have a reduced risk of chronic disease. Some of this has been attributed to the healthy fats that peanuts provide. Studies also show that peanut

eaters have lower body mass index (BMI) values. Human studies have shown that eating peanuts versus other high carbohydrate foods helps to keep you feeling fuller longer and this may be part of the reason for helping with weight control<sup>32</sup>. But there may be more to the story. Peanut compounds like resveratrol

may also be contributing to these health benefits. As the research unfolds, we may all be wishing that our bagged peanut butter sandwiches had continued past elementary school. From cutting disease risk to maintain weight and promoting longevity, eating peanuts and peanut butter is a good idea throughout life.

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The Peanut Institute is a non-profit organization that supports nutrition research and develops educational programs to encourage healthy lifestyles.

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