

Alzheimer's prevention in your pantry

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(Medical Xpress) -- Alzheimer's, the degenerative brain disorder that disrupts memory, thought and behavior, is devastating to both patients and loved ones. According to the Alzheimer's Association, one in eight Americans over the age of 65 suffers from the disease. Now Tel Aviv University has discovered that an everyday spice in your kitchen cupboard could hold the key to Alzheimer's prevention.

An extract found in cinnamon bark, called CEppt, contains properties that can inhibit the development of the disease, according to Prof. Michael Ovadia of the Department of Zoology at Tel Aviv University. His research, conducted in collaboration with Prof. Ehud Gazit, Prof. Daniel Segal and Dr. Dan Frenkel, was recently published in the journal

[PLoS ONE](#).

Taking a cue from the ancient world

Prof. Ovadia was inspired to investigate the healing properties of cinnamon by a passage in the Bible. It describes high priests using the spice in a holy ointment, he explains, presumably meant to protect them from infectious diseases during sacrifices. After discovering that the cinnamon extract had antiviral properties, Prof. Ovadia empirically tested these properties in both laboratory and animal Alzheimer's models.

The researchers isolated CEppt by grinding cinnamon and extracting the substance into an aqueous buffer solution. They then introduced this solution into the drinking water of mice that had been genetically altered to develop an aggressive form of Alzheimer's disease, and [fruit flies](#) that had been mutated with a [human gene](#) that also stimulated Alzheimer's disease and shortened their lifespan.

After four months, the researchers discovered that development of the disease had slowed remarkably and the animals' activity levels and longevity were comparable to that of their healthy counterparts. The extract, explains Prof. Ovadia, inhibited the formation of toxic amyloid polypeptide [oligomers](#) and [fibrils](#), which compose deposits of plaque found in the brains of Alzheimer's patients.

In the test-tube model, the substance was also found to break up [amyloid](#) fibers, similar to those collected in the brain to kill neurons. According to Prof. Ovadia, this finding indicates that CEppt may not just fight against the development of the disease, but may help to cure it after Alzheimer's molecules have already formed. In the future, he says, the team of researchers should work towards achieving the same result in animal models.

Adding a dash of cinnamon

Don't rush to your spice cabinet just yet, however. It would take far more than a toxic level of the spice — more than 10 grams of raw cinnamon a day — to reap the therapeutic benefits. The solution to this medical catch-22, Prof. Ovadia says, would be to extract the active substance from cinnamon, separating it from the toxic elements.

"The discovery is extremely exciting. While there are companies developing synthetic AD inhibiting substances, our extract would not be a drug with side effects, but a safe, natural substance that human beings have been consuming for millennia," says Prof. Ovadia.

Though it can't yet be used to fight Alzheimer's, [cinnamon](#) still has its therapeutic benefits — it can also prevent viral infections when sprinkled into your morning tea.

Provided by Tel Aviv University

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