

## A fruit a day may keep Alzheimer's away

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Eating more apples, bananas and oranges just may help stave off such neurodegenerative diseases as Alzheimer's and Parkinson's, suggests a new Cornell study published online in the Journal of Food Science.

When Chang Y. "Cy" Lee, Cornell professor and chair of food science and technology at the university's New York State Agricultural Experiment Station in Geneva, N.Y., and South Korean colleagues exposed neurons (nerve cells) to apple, banana and orange extracts, they found that the fruits' antioxidants, specifically the so-called phenolic phytochemicals, prevented oxidative stress-induced toxicity in the neurons.

"Many studies indicate that the brains of Alzheimer's patients are subjected to increased oxidative stress ... and the resulting cellular dysfunctions are widely believe to be responsible for the nerve degeneration in these patients," said Lee.

Lee had reported in 2004 that similar chemicals in apples could protect rat brain cells when assaulted by oxidative stress in laboratory tests, and therefore, that apples might help prevent the type of damage that triggers Alzheimer's and Parkinson's disease.

"Since then, we received many requests (mostly from the general public), asking about the potential benefits of other common fresh fruits in our daily diet, such as oranges or bananas. To answer these questions, we did some additional work," Lee said.

Unpeeled apples, he said, contain the highest content of protective antioxidants, followed by bananas, then oranges. These foods are the major fruits in Western and Asian diets.

"Our results suggest that fresh apples, banana and orange in our daily diet along with other fruits may protect neuron cells against oxidative stress-induced neurotoxicity and may play an important role in reducing the risk of neurodegenerative disorders such as Alzheimer's disease," Lee concluded.

In other work, Lee had found that plums, grapes and cherries also have strong antioxidant activity and that apple phenolics inhibit colon-cancer cell and liver-tumor cell proliferation in laboratory tests.

Source: Cornell University

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