

Radical Defense

Advertisers promote them. The American Heart Association recommends eating foods that contain them. Without them, you may be more prone to cancer, neurological or cardiovascular problems. No wonder antioxidants have gained a reputation for nurturing health. While antioxidant science is far from settled, OSU researchers are at the forefront of identifying sources and understanding how antioxidants work in the body by curbing “free radicals.”



Berry good sources

In 2002, a highly cited paper by an OSU research team led by Ron Wrolstad (College of Agricultural Sciences) and Balz Frei (Linus Pauling Institute and College of Science) documented antioxidant concentrations in 107 varieties of blackberries, red and black raspberries,



First line of defense

In a 1989 paper that has become a citation classic, Balz Frei (Linus Pauling Institute and College of Science) reported that vitamin C acts as a powerful antioxidant in human plasma. He showed that it quickly disarms DNA”



One-two punch

In a series of papers, Maret Traber (Linus Pauling Institute and College of Health and Human Sciences) and OSU colleagues have shown that in humans, vitamins E and C team up to pack more antioxidant punch than either does alone.



Gene regulator

Lipoic acid acts as a powerful antioxidant in laboratory experiments (in vitro), but it plays other roles in the human body. Tory Hagen (Linus Pauling Institute and College of Science) has reported that it regulates genes that stimulate production of glutathione, one of the body's own antioxidants, and the transport of antioxidants into cells.



Heavy metal

Zinc is the most abundant intracellular trace element in the body, contributing to immune function, reproduction and oxidative stress response. In 2009, a team led by Emily Ho (Linus Pauling Institute and College of Health and Human Sciences) reported that a lack of zinc

For more information

OSU's Linus Pauling Institute specializes in the study of antioxidants and other micronutrients. For up-to-date research-based information, see LPI's Micronutrient Information Center at lpi.oregonstate.edu/infocenter/.

Funding

These studies have been supported by competitive grants from the National Institutes of Health (National Center for Complementary and Alternative Medicine, National Institute of Diabetes and Digestive and Kidney Diseases, Office of Dietary Supplements, National Institute on Aging) and the U.S. Department of Agriculture, as well as by funds from collaborators' home institutions. The Linus Pauling Institute, one of the nation's first two Centers of Excellence for Research on Complementary and Alternative Medicine, is also supported by gifts from individuals, corporations and foundations.