



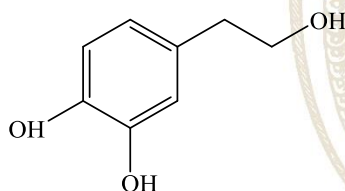
OliveNet™ Newsletter

OliveNet™ Library newsletter

Welcome to the second issue of the OliveNet™ Library newsletter. Monthly issues will include the molecule of the month, upcoming events, latest research, and periodic interviews with key people in the Mediterranean diet and olive oil fields.

Molecule of the month

Hydroxytyrosol



Hydroxytyrosol

Hydroxytyrosol (4-(2-hydroxyethyl)benzene-1,2-diol; also known as 2-(3,4-dihydroxyphenyl)ethanol) is a simple polyphenol and one the most widely-investigated olive-derived phenolic compounds. Numerous studies have highlighted the potent anti-inflammatory, antioxidant and anticancer effects of hydroxytyrosol in cell culture models and in animal models of human disease. Importantly, dose-dependent absorption in humans has been demonstrated and, albeit, still limited, beneficial biological effects are emerging following administration of hydroxytyrosol in humans.

Upcoming Events

Conferences

American Oil Chemists' Society – Australasian Section, Biotechnology, lipidomics and nutrition conference – September 11 – 13, 2017, Château Tanunda, Barossa Valley, SA, Australia
8th International Conference on Polyphenols and Health – October 3 – 6, 2017, Rendez-vous in Quebec City, Canada

Short Courses

OliveOilTimes Education Lab at the International Culinary Center (California) – Olive Oil Sommelier Certification Level 1 (October 2 – 4, 2017), Level 2 (October 5 – 7, 2017)
Olive Oil Academy, Olive Oil Sommelier Course, October 23 – 27, 2017, Pienza Val d'Orcia, Siena, Italy

Global Research Highlights

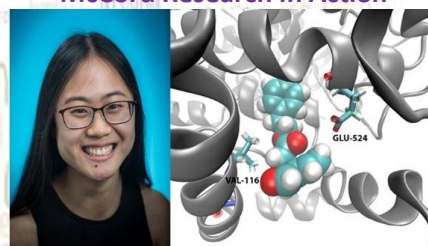
Hydroxytyrosol and Alzheimer's pathology.

Numerous publications are emerging that highlight the potential of olive phenolics in neurodegenerative conditions, particularly, Alzheimer's disease. In a recent study hydroxytyrosol was shown to restore insulin signalling in astrocytes treated with amyloid beta (A β 25-35). There is a strong link between diabetes and Alzheimer's disease, with the pathogenic A β (1-42) having been shown to impair insulin signalling and glycogen storage. The recent study highlights that hydroxytyrosol restores insulin signalling probably through the Akt-mTOR pathway. Biofactors. 2017 Mar 20. doi: 10.1002/biof.1356.

Hydroxytyrosol and increased vitamin C levels.

The beneficial effects of hydroxytyrosol have been widely investigated in cell culture models and in vivo models of disease. In a recent study purified hydroxytyrosol (45 mg for eight weeks) was administered to hyperlipidemic individuals (n=14). Hydroxytyrosol was well-tolerated and a sustained increase in serum levels of vitamin C (two-fold) was observed with supplementation, highlighting an additional (indirect) mechanism for the antioxidant effects of hydroxytyrosol. Redox Biol 11. 384-389 (2017).

McCord Research in Action



McCord Research Scholar, Julia Liang. Julia is a molecular modeling specialist; her work is aimed at identifying disease-associated protein targets for various phenolic compounds derived from olives. In this example, the binding of oleocanthal to the inflammation-related protein, COX-2 is shown; interactions with the amino acids glutamine (GLU)-524 and valine (VAL)-116 are depicted.