Antioxidant activity of olive phenols and other dietary phenols in model gastric conditions: Scavenging of the free radical DPPH and inhibition of the haem-induced peroxidation …

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Description

The antioxidant activity of dietary phenols in humans (direct reduction of radicals and other highly oxidizing species) could be largely restricted to fighting postprandial oxidative stress in the gastric compartment. Hence, the development of chemical tests simply modelling this situation is pertinent. In this work, the antioxidant properties of the olive phenols hydroxytyrosol and oleuropein are investigated in pH 5–6 micellar solutions through the reduction of the DPPH radical and the inhibition of the metmyoglobin-induced peroxidation of linoleic acid. In the first test, hydroxytyrosol and oleuropein proved as efficient as common polyphenols and their reactivity was only moderately affected by β-cyclodextrin and bovine serum albumin, taken as models of food macromolecules. In the second test, hydroxytyrosol and oleuropein by themselves came up as relatively weak inhibitors, despite their efficiency at reducing …