**Olive Fruit Extract**

**Technical Background**

- The Mediterranean region has one of the lowest rates of coronary heart disease (CHD), and is among the leaders in life expectancy. The health and longevity of people in this region is largely associated with a diet high in plant-based foods (fruits, vegetables, grains, nuts and legumes) and low to moderate intakes of cheese, meat and wine. The defining component of this diet however, is the abundant use of olives and olive oil.

- Olives and olive oil have been a significant staple of the Mediterranean culture for thousands of years, and have been associated with a variety of health benefits, including lower incidence of heart disease and certain cancers. Epidemiological studies have shown that the incidence of heart disease and all-cause death rates is low in populations that consume olive oil as the main source of dietary fat.

- Olives contain a number of bioactive compounds. The most distinguishing are the polyphenols. These phenolic antioxidants are structurally distinct from the vitamins, carotenoids, bioflavonoids, proanthocyanidins, and antioxidants found in other fruits and vegetables.

- Studies have shown that olive polyphenols exhibit anti-inflammatory activity, improve immune function, prevent oxidative damage to DNA, reduce markers of oxidation, and protect the cardiovascular system by reducing platelet aggregation, reducing LDL oxidation, and increasing levels of HDL.

**Sources and Recommended Intake**

- The traditional Mediterranean diet provides about 5 to 10 mg per day of the beneficial olive polyphenols. The only dietary source of olive polyphenols is olives and olive oil.

**Abstracts**


Hydroxytyrosol is one of the o-diphenolic compounds in extra virgin olive oil and has been suggested to be a potent antioxidant. The superoxide radical (O2•-) and nitric oxide (NO•) can react very rapidly to form peroxynitrite (ONOO•), a reactive tissue-damaging species thought to be involved in the pathology of several chronic diseases. Hydroxytyrosol was highly protective against the peroxynitrite-
dependent nitration of tyrosine and DNA damage by peroxynitrite in vitro. Given that extra virgin olive oil is consumed daily by many humans, hydroxytyrosol derived from this diet could conceivably provide a defense against damage by oxidants in vivo. The biological activity of hydroxytyrosol in vivo will depend on its intake, uptake and access to cellular compartments.

References