



OPC

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Free radicals are extremely unstable substances which, in the presence of oxygen, will turn a shiny metal wrench into an ugly rusted wrench very quickly. Our bodies don't, of course, rust. In humans, however, free radicals cause irreparable oxidative damage to cells and the protective membrane linings that surround cells. This, in turn, can cause accelerated wear and tear that may lead to premature aging, lowered immune resistance, and even cancer and heart disease. Some common sources of free radicals are smoking, consumption of fats, inhalation of carbon monoxide and other environmental pollutants, chemical additives in foods such as nitrites and nitrates, overexposure to the sun and other sources of radiation.

Antioxidant protection against free radicals

Fortunately, nature has provided us with a way to slow down and protect against the oxidative damage of free radicals. According to T.L. Dormandy of the Department of Chemical Pathology at London's Whittington Hospital, "Cells and tissues are protected against oxidizing free radicals by a complexity of antioxidant mechanisms...So long as the supply of antioxidants lasts, these free radicals are instantly trapped" (*The Lancet, March 25, 1978*). Since 1978, when Dr. Dormandy described the valuable role of antioxidants in protecting against the oxidative damage caused by free radicals, many nutrients have been studied for their antioxidant properties. The most notable among these include vitamin E, vitamin C, beta carotene and selenium. In the last few years, however, two similar antioxidant botanical extracts, pycnogenol® and grape seed extract, has come to the attention of the scientific community.

The power of OPC

Pycnogenol® is a bioflavonoid derived from the bark and needles of the pine tree *Pinus maritima*. This patented bioflavonoid contains the powerful group of antioxidants called oligomeric proanthocyanidins (OPC).¹ As an antioxidant, OPC are 50 times more effective than vitamin E and 20 times as strong as vitamin C^{2 3} (This does not mean that they can substitute for vitamin E and C or their antioxidant functions). OPC does more than just scavenge free radicals, however.

OPC inhibits histamine decarboxylase in the anti-inflammatory process, thereby reducing inflammation. Inhibiting histamine decarboxylase also decreases the amount of histamine released in allergic reactions, thus reducing the severity of allergic responses. Additional enzymatic inhibition by OPC is noted against elastase and collagenase, enzymes which degrade human connective tissue leading to lost flexibility and age related damage to joints, skin, tendons and ligaments. OPC helps to improve and normalize capillary activity, strengthening capillary walls. They restore flexibility to arterial walls by binding to collagen fibers, realigning them in the process to a more youthful, undamaged structure. Elasticity and flexible strength is thereby restored to connective tissue.^{4 5 6}

Furthermore, Vitamin C and OPC have a synergistic relationship. OPC enhances the cell building effects of vitamin C, particularly in the cells that make up collagen tissues.⁷

OPC are safe

You may remember the old television commercial where Euell Gibbons asks, "Ever it a pine tree? Many parts are edible." Although you may not want to eat pine bark, the consumption of pycnogenol® is certainly safe enough. Pycnogenol® has been found to be non-toxic, non-teratogenic, non-mutagenic, non-carcinogenic and non-antigenic.⁷ The same may be said of grape seed extract. For a powerful antioxidant with so many benefits, what more could you ask?

Pycnogenol® or Grape Seed Extract

There is often talk among different product manufacturers as to whether pycnogenol® or grape seed extract is the superior form of OPC. According to M.W. International, the raw material suppliers of pycnogenol®, this pine source of is superior because it provides many other valuable natural constituents in addition to OPC. These other constituents include free organic acids, phenolic glucosides and glucose esters of vanillic acid, ferulic acid, parahydroxybenzoic acid, caffeic acid gallic acid and taxifolin. M.W. International literature claims, "All of these components combined contribute to the highly beneficial activity of Pycnogeneol®."

On the other hand, Traco Labs, the raw material supplier of grape seed extract claims that pycnogenol® is missing the valuable gallic esters (in particular, proanthocyanidin B2-3'-0-gallate) found in grape seed extract. They say, therefore, that grape seed extract is a better free radical scavenger than pycnogenol®.

In reality, both are good sources of OPC. The bottom line is that, just as it doesn't matter whether vitamin C comes from rose hips or oranges, it probably doesn't matter whether OPC comes from pycnogenol® or grape seeds.

References

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