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Oligomeric Procyanidin Complex

National Cancer Institute

Source

National Cancer Institute. *Oligomeric Procyanidin Complex*. NCI Thesaurus. Code C131333.

A preparation containing plant-derived polyphenolic bioflavonoids composed of multimers (dimers, trimers, or higher order polymers) of the flavan-3-ol-based monomers catechin and epicatechin, which are extracted from sources rich in these chemicals, such as grape seeds, grape skin and pine bark, with potential anti-oxidant, anti-inflammatory, anti-microbial, anti-cancer and protective activities. Upon oral administration of oligomeric procyanidin complex (OPC), the polyphenols exert anti-oxidant activity by scavenging free radicals, which prevents both the formation of reactive oxygen species (ROS), particularly nitrous oxide (NO), and DNA damage. OPC also inhibits chemical-induced lipid peroxidation. In addition, OPC reduces the production advanced glycation end-products (AGE), decreases AGE accumulation in tissues, and inhibits the progression of AGE/receptor for AGE (RAGE)-mediated inflammatory transduction pathways, which inhibits the activation of pro-inflammatory transcriptional regulators and prevents the secretion of pro-inflammatory cytokines/chemokines. This ultimately prevents inflammatory-driven damage to end organs and may reduce inflammation-induced cancer formation and progression. In addition, OPC inhibits the activity of a variety of enzymes, including xanthine oxidase, collagenase, elastase hyaluronidase and beta-glucuronidase.