

Quercetin

Relief from allergies
naturally

- **CARDIOVASCULAR PROTECTION**
- **HIGH BIOFLAVONOID CONTENT**
- **ANTI-VIRAL**
- **ANTI-INFLAMMATORY**



Quercetin is the most abundant of the flavonoid molecules. Dietary sources of quercetin include apples, onions, tea, berries, and *Brassica*-type vegetables (broccoli, cauliflower, etc.), as well as many seeds, nuts, flowers, barks, and leaves. It is also found in medicinal botanicals, including *Ginkgo biloba*, *Hypericum perforatum* (St. John's wort), *Sambucus canadensis* (elder), and many others.

All flavonoids have the same basic chemical structure, a three-ringed molecule with hydroxyl (OH) groups attached. A multitude of other substitutions can occur, giving rise to the many types of flavonoids. Flavonoids often occur in foods as a glycoside, meaning they have a sugar molecule (rhamnose, glucose, galactose, etc.) attached to the center ring. Quercetin is the aglycone (meaning minus the sugar molecule) of a number of other flavonoids, including rutin, quercetin, isoquercetin, and hyperoside.

Quercetin appears to have many beneficial effects on human health, including cardiovascular protection, anti-cancer activity, anti-ulcer effects, anti-allergy activity, cataract prevention, antiviral activity, and anti-inflammatory effects.

Flavonoid-rich quercetin scavenges oxygen radicals, inhibits xanthine oxidase, and inhibits lipid peroxidation *in vitro*. As another indicator of its antioxidant effects, quercetin inhibits oxidation of LDL cholesterol *in vitro*. By itself, and paired with ascorbic acid, quercetin reduces the incidence of oxidative damage to neurovasculature structures in skin, and inhibits damage to neurons caused by experimental glutathione depletion.

Flavonoids, particularly quercetin, are inhibitors of allergic (IgE-mediated) mediator release from mast cells and basophils. In reported laboratory studies, quercetin inhibited not only IgE-mediated allergic mediator release from mast cells but also IgG-mediated histamine and SRS-A (peptidoleukotriene). Interestingly, quercetin was much more potent as an inhibitor of the release of SRS-A than histamine, suggesting that it might also inhibit the biosynthesis of SRS-A. Subsequently it was demonstrated that quercetin was an effective inhibitor of 5-lipoxygenase. This property of the compound most likely accounts for its effect on peptidoleukotriene biosynthesis.

Quercetin is indicated in any inflammatory condition, as it inhibits the formation of the inflammatory mediators prostaglandins and leukotrienes, as well as histamine release. This may be especially helpful in asthma, as leukotriene B4 is a potent bronchial constrictor. Quercetin's inhibition of xanthine oxidase decreases the formation of uric acid, and thus it may be of value in the treatment of gout.

Animal studies have shown quercetin to be protective of gastric ulceration caused by ethanol, by inhibiting lipid peroxidation of gastric cells and/or by inhibition of gastric acid secretion. An interesting aspect of quercetin's anti-ulcer effect is that it has been shown to inhibit growth of *Helicobacter pylori* in a dose-dependent manner *in vitro*.

Each vegetable capsule contains:

Quercetin Dihydrate 98%500 mg

Suggested use:

Take 1 or 2 capsules daily or as directed by your health care practitioner.

Keep out of reach of children.

Ingredients in this formula have been validated for potency and identity, and certified free of heavy metals, pesticides and solvent residues using:

- HPLCs with Diode Arrays UV-VIS Detectors / Refractive Index Detectors
- Microwave Digesting Unit
- Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES)
- Gas Chromatograph/Mass Spectrometer (GC/MS)
- Headspace Gas Chromatography (organic solvent residues)

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