

### **Accurate Clinic**

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www.AccurateClinic.com

Quercetin belongs to a group of plant pigments called flavonoids that give many fruits, flowers, and vegetables their color.

Flavonoids, such as quercetin, are antioxidants -- they scavenge damaging particles in the body known as free radicals, which damage cell membranes, tamper with DNA, and even cause cell death. Antioxidants can neutralize free radicals and may reduce or even help prevent some of the damage they cause. They also help keep LDL ("bad") cholesterol from being damaged, which scientists think may contribute to heart disease.

### Benefits:

Quercetin has strong antioxidant properties, acts like an antihistamine and an anti-inflammatory, and may help protect against heart disease and cancer. Quercetin can also help stabilize the cells that release histamine in the body and thereby have an anti-inflammatory effect which may benefit conditions associated with inflammation such as arthritis and Interstitial Cystitis.

# Allergies, Asthma, Hay Fever and Hives

In test tubes, quercetin prevents immune cells from releasing histamines, chemicals that cause allergic reactions. On that basis, researchers think that quercetin may help reduce symptoms of allergies, including runny nose, watery eyes, hives, and swelling of the face and lips. However, there is no evidence yet that it works in humans.

#### **Heart Disease**

Test tube, animal, and some population based studies suggest that the flavonoids quercetin, resveratrol, and catechins (all found in high concentration in red wine) may help reduce the risk of atherosclerosis (plaque build up in arteries that can lead to heart attack or stroke). These nutrients appear to protect against the damage caused by LDL ("bad") cholesterol and may help prevent death from heart disease. However, most human studies have looked at flavonoids in the diet, not as supplements.

# **High Cholesterol**

Test tubes studies show that quercetin prevents damage to LDL cholesterol, and population studies show that people who eat diets high in flavonoids have lower cholesterol. One study found that people who took quercetin and an alcohol free red wine extract (which contains quercetin) had less damage to LDL cholesterol. Another study found that quercetin reduced LDL concentrations in overweight subjects who were at high risk of heart disease. More studies are needed.

#### **Hypertension**

Studies show that quercetin supplementation reduces blood pressure in people who have hypertension.

# Interstitial Cystitis (IC)

Studies suggest that people with interstitial cystitis might benefit from flavonoids. People with this IC have bladder pain, similar to a bladder infection, and havee an urgent need to urinate. In studies, those who took quercetin had fewer symptoms.

# **Prostatitis**

Some preliminary evidence indicates that quercetin might reduce symptoms of prostatitis (inflammation of the prostate).

## Rheumatoid Arthritis (RA)

There are reports of people with RA who had fewer symptoms when they switched from a typical Western diet to a vegan diet with lots of uncooked berries, fruits, vegetables, nuts, roots, seeds, and sprouts containing antioxidants, including quercetin. But there is no evidence that the positive effects were due directly to antioxidants, and no evidence that quercetin supplements would help treat RA.



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#### Cancer

Scientists have long considered quercetin, and other flavonoids contained in fruits and vegetables important in cancer prevention. People who eat more fruits and vegetables tend to have lower risk of some types of cancer. And animal and test tube studies suggest that flavonoids do indeed have anti cancer properties. Quercetin and other flavonoids have been shown in these studies to inhibit the growth of cancer cells from breast, colon, prostate, ovarian, endometrial, and lung tumors. One study even suggests that quercetin is more effective than reservatrol in terms of inhibiting tumor growth. Another found that frequent intake of quercetin rich foods was associated with lower lung cancer risk. The association was even stronger among subjects who smoked more than 20 cigarettes daily.

## **Dietary Sources**

Fruits and vegetables -- particularly citrus fruits, apples, onions, parsley, sage, tea, and red wine -- are the primary dietary sources of quercetin. Olive oil, grapes, dark cherries, and dark berries -- such as blueberries, blackberries, and bilberries -- are also high in flavonoids, including quercetin.

## **Supplement Forms**

Quercetin supplements are available as pills or capsules. They are often packaged with bromelain (an enzyme found in pineapple) because both are anti-inflammatories. Other flavonoid rich extracts include those from grape seed, bilberry, *Ginkgo bi*loba, and green tea. There are also water soluble forms of quercetin available, such as hesperidnmethyl-chalcone (HMC) quercetin-chalcone.

### How to Take It

Pediatric - There isn't enough evidence to recommend guercetin for children.

Adult - Recommended adult dosages of quercetin vary depending on the condition being treated.

### **Precautions**

Quercetin is generally considered safe. Side effects may include headache and upset stomach. Preliminary evidence suggests that a byproduct of quercetin can lead to a loss of protein function. Very high doses of quercetin may damage the kidneys. You should take periodic breaks from taking quercetin.

Pregnant and breastfeeding women and people with kidney disease should avoid quercetin. At high doses (greater than 1 g per day), there are some reports of damage to the kidneys.

# **Possible Drug Interactions:**

Anticoagulants (blood thinners) -- Quercetin may enhance the effect of these drugs and increasing your risk for bleeding:

Warfarin (Coumadin) Clopidogrel (Plavix) Aspirin

Chemotherapy -- Talk to your oncologist before taking any supplements if you are undergoing chemotherapy. Corticosteroids -- Quercetin may cause these drugs to stay in the body longer.

Digoxin -- Quercetin may increase the risk of digoxin.

Fluoroguinolones (Class of antibiotis like Cipro) -- Quercetin may reduce the effectiveness of fluoroguinolones.

Reference Source: University of Maryland Medical Center