

I N N A T E

RESPONSE FORMULAS®

V i s m e d i c a t r i x n a t u r a e

Quercetin

100% Whole Food Targeted Response Dietary Supplement

Formula Rationale

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The statements in this brochure are not intended
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Formula Rationale of Quercetin

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It is our mission to craft efficacious formulations to help harness the innate healing response that is within every patient. In the time-honored traditions of *vis medicatrix naturae* (the healing power of nature), we select only the most nourishing whole foods and botanicals.

Purpose

To naturally mediate allergic response with antioxidant action, membrane stabilization, histamine regulation and inhibition of the allergic cascade.

Quercetin is referred to as “nature’s biological response modifier” due to the ability to modify reaction to allergens and viruses with antioxidant, anti-inflammatory, and antiviral activity. Quercetin can also be known to support healthy histamine levels.

Flavonoids

Flavonoids are a class of plant pigments that provide the colors for many fruits, vegetables and flowers. The actions of many medicinal foods, herbs and bee pollen are related to their different Flavonoids.

Biochemist, Professor Albert Szent-Gyorgyi won the Noble Prize in 1937 for the discovery of Vitamin C and Flavonoids. Szent-Gyorgyi first named Flavonoids Vitamin P due to their strengthening properties, which reduce vascular permeability. Flavonoids go beyond the scope of Vitamin C, stabilizing the integrity of cell membranes, mediating allergic response, and assisting in fighting off infections and viruses.

Flavonoids occur in most plant species. They are powerful inhibitors of oxidative damage and are able to quench a wide variety of free radicals, including: hydroxyl radicals, superoxide radicals, and lipid peroxide radicals. Flavonoids possess powerful anti-inflammatory, anti-thrombotic, antiviral, vasodilatory, antimutagenic and antibacterial actions by acting as single-electron donors.

Quercetin (3,5,7,3',4'-pentahydroxyflavone)

Quercetin is a flavonoid that serves as the backbone for several beneficial flavonoid constituents found in a wide variety of medicinal plants. Quercetin is one of the most highly studied of all Flavonoids, and affects many different enzyme systems. It is consistently the most biologically active Flavonoid in research studies, and has the ability to modify the body’s response to allergens and other reactive compounds. It is recognized for modulating allergic responses and hypersensitivities. Quercetin promotes the stabilization of mast cell membranes, inhibits histamine release, and decreases the production of pro-inflammatory leukotrienes, while inhibiting free radical production and lipid peroxidation. These actions contribute to its efficacy in protocols for mediation of allergic response.

SUPPLEMENT FACTS

Serving Size 1 Tablet

Servings Per Container 60, 90 or 180

Calories 1.9

Total Fat	7 mg
Total Carbohydrate	443 mg
Dietary Fiber	0 mg
Sugars	0 mg
Protein	7 mg

SOURCE; FOODSTATE® AMOUNT

Quercetin (<i>Dimorphandra mollis</i> *- Faveira)	500 mg
Phenolic/Bioflavonoid Fruit Concentrate:	
FoodState® Citrus	120 mg
FoodState® Wild Blueberries	15 mg
FoodState® Cranberries	15 mg

OTHER INGREDIENTS

Cellulose, Guar Gum, Vegetable Lubricant, Silica, Food Glaze.

* **FoodState®** 100% Whole Food Concentrates.

** This statement has not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.

† Based on a 2000 calorie diet.

Consult with your healthcare practitioner before taking any Quercetin product with Calcium Channel Blocking Drugs.

Anti-inflammatory

Quercetin has significant anti-inflammatory activity. It demonstrates inhibition of the production and release of histamine, and other enzyme pathways involved with inflammatory response in the cardiovascular system, and collagen. Quercetin is useful for supporting hay fever and similar allergic responses. “I found that a good preventative supplement for hay fever is the bioflavonoid (plant pigment) quercetin... This natural compound appears to reduce the body’s inflammatory response to pollen and other allergens.” Dr. Andrew Weil, *Self-Healing*, May 2005

“Quercetin has demonstrated significant anti-inflammatory activity due to direct inhibition of several of the initial processes of inflammation via interaction with calcium channels and / or calmodulin (the intracellular calcium binding protein) as well as through other mechanisms such as by inhibiting mast cell and basophil degranulation, neutrophil and monocyte lysosomal secretion, prostaglandin (most notably, leukotriene) formation, lipid peroxidation, and the resultant cascade of effects that are often a result of these processes. For example, it inhibits both the manufacture and release of histamine and other allergic/inflammatory mediators. In addition it exerts potent antioxidant activity and vitamin C-sparing action.” (ref. 3)

Quercetin can inhibit inflammatory responses mediated by Hyaluronidase, which are involved with the destruction of collagen. Hyaluronidase is any of 3 enzymes that catalyze the hydrolysis of hyaluronic acid, thus increasing tissue permeability to fluids. One or more of these enzymes occur in the testes and sperm. Quercetin membrane stabilizing action, combined with its antioxidant activity, creates effective anti-inflammatory response. This response prevents the production of free radicals and inflammatory leukotrienes. Excess leukotriene formation is linked to asthma, psoriasis, dermatitis, gout and other inflammatory disorders.

Blood Sugar

“Quercetin is also a strong inhibitor of aldose reductase, the enzyme responsible for the conversion of blood sugar (glucose) to sorbitol a compound strongly implicated in the development of diabetic complications (diabetic cataracts, neuropathy, and retinopathy).” *(ref. 3) Quercetin is converted into quercetrin by intestinal flora. Quercetrin has shown ability to significantly decrease the accumulation of sorbitol in the lens, potentially delaying the development of cataracts. Quercetin has also shown ability to enhance insulin secretion and support the health of the pancreas. It appears that quercetin is also of value in diabetes for free radical protection of the pancreatic beta cells. (ref. 3)

Virus

Flavonoids possess significant anti-viral activity. Quercetin has the greatest antiviral activity against Herpes Virus Type I, Influenza and some types of respiratory virus. Flavonoids that occur in plants contribute to their therapeutic properties. Research suggests Quercetin may be of benefit in viral infections such as the Common Cold. (ref. 3)

Cardiovascular

A supportive Flavonoid for the cardiovascular system, Quercetin assists membrane stabilization and proper blood vessel permeability. The strengthening action on the blood vessels helps to reduce potential for ruptures of the capillaries and connective tissue. Quercetin and Anthocyanins have been shown to reduce oxidative damage to LDL cholesterol, important to cardiovascular health.

Tumors

Quercetin is used experimentally only in some adjuvant therapies for tumors and some forms of cancer, the research is preliminary.

Phenolic/Bioflavonoid Fruit Concentrate

The ColdFusion™ Citrus Bioflavonoid/Phenolic complex provides an enhanced spectrum of active food sources of Flavonoids and Phenolic compounds, including Quercetin, Bioflavonoids and Anthocyanins.

Food sources: Orange, Cranberry and Blueberry.

Quercetin Actions include:

Anti-inflammatory, inhibition of aldose reductase, antiviral, membrane stabilizing, cardiovascular tonic, antioxidant, free radical scavenger.

Food and Plant sources include:

Citrus fruits, onions, shallots, grapes, apples, *Sophora japonica*, cranberries, tea, garlic, cabbage, garlic, Brussel sprouts, Spinach, and kale. Evening Primrose Leaf, Sunflower, Oatstraw, Nettles, Cayenne.

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