## 🖒 designs for health Australia

# Quercetin + Nettles

An antioxidant and anti-inflammatory formula to support the healthy functioning of the immune system

#### **OVERVIEW**

Quercetin dihydrate

From dry leaf

Serving Per Pack

Colloidal anhydrous silica

Microcrystalline cellulose Magnesium stearate

Pack Size

**Excipients** 

Maltodextrin

Hypromellose

Lecithin

- > Contains the lecithin-based and highly bioavailable form of quercetin, Quercefit®.
- > Quercetin has anti-inflammatory and antioxidant properties that assist with the healthy functioning of the immune system.
- > Nettle is a nutritive herb that provides an adjunctive partner to quercetin, adding valuable anti-inflammatory activity to the formula.

85 ma

250 mg

400 mg

4 g

> Vegan friendly, dairy and soy free.

Equiv. to quercetin phytosome (Quercefit\*)

Urtica dioica (Nettle) extract dry conc.

Calcium hydrogen phosphate dihydrate

Active Ingredients (per vegetarian hard capsule)

60

20 - 30 serves

# Directions for Use

Adults: take 2-3 capsules with a large glass of water, or as advised by your health professional.

### No added: soy, dairy, lactose, gluten, or nuts.

Warnings

Allergen Information

If symptoms persist, talk to your health professional.

#### Prescribing information

Quercetin and *Urtica dioica* are both considered safe when used orally and appropriately.

Designed and packed in Australia from imported ingredients.



No Added Gluten

23mm



No Added

No Added Seeds





No Added Soy





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#### **EDUCATION**

#### Quercetin

Quercetin + Nettles utilises an innovative form of quercetin known as Quercefit<sup>®</sup>, which incorporates a phospholipid base for enhanced absorption and bioavailability. Quercetin is traditionally difficult for the body to absorb. When attached to the lecithin-based phytosome, the solubility of quercetin is increased by 20 times, allowing for improved serum levels after supplementation.<sup>1</sup>

#### Anti-inflammatory and immunomodulatory functions

Quercetin is a bioflavonoid compound that can affect immunity and inflammation by targeting leukocytes and influencing the activity of membrane proteins, enzymes and signalling molecules.<sup>6</sup>

It is known for its effects as an anti-inflammatory and immunomodulator, particularly in conditions associated with mast cell, neutrophil and basophil degranulation and subsequent histamine release in both cellular and humoral immune responses.<sup>2,4,6,7</sup>

It does this by inhibiting the activation of mast cells whilst also stabilising their membranes to inhibit degranulation and histamine release – one study showing that histamine release in nasal tissues may be reduced by between 46% and 99%.<sup>4,7</sup> Other anti-inflammatory actions include inhibiting the release of Th-2 derived cytokines and reducing the secretion of antigen-specific IgE antibodies by B-cells.<sup>2,3,5-7</sup> It also suppresses the production of both periostin and periostininduced eosinophil chemoattractants and nitric oxide production in the epithelial tissues of the nose and sinuses.<sup>5</sup>

Furthermore, Quercetin may also reduce the expression of vasoactive intestinal polypeptide (VIP), capillary permeability and platelet aggregation.<sup>4,5</sup>

It has also been shown to inhibit nuclear factor-kappa B and therefore the subsequent the production and activity of inflammatory cytokines such as prostaglandins, leukotrienes, nitric oxide synthase. It can also inhibit cyclooxygenase-2 enzymes and modify the function of neutrophils.<sup>2,3</sup>

Preclinical studies have suggested that quercetin also promotes neutrophil chemotaxis and the phagocytic activity of macrophages and Natural Killer cells.<sup>2</sup>

#### Antioxidant functions

Like other phenolic flavonoid compounds, quercetin shows potent antioxidant activity related to its catechol-type-B-ring structure.<sup>2,3</sup> Suggested mechanisms include direct free radical scavenging, metal chelation (it supresses generation of free radicals by heavy metals), enzyme inhibition or the stimulation of protective enzymes.<sup>3</sup>

#### Urtica dioica (Nettle)

Nettle is arguably the most nutritive of herbs available to practitioners. It has a high quercetin content which is thought to contribute to its effects on the immune system. Preclinical studies have indicated an anti-inflammatory activity via the inhibition of interleukin-2 and interferongamma production as well as the lipopolysaccharide stimulation of TNF-alpha.<sup>2</sup>

#### **Designs for Health Quality Guarantee**

Designs for Health medicines that are listed on the Australian Register of Therapeutic Goods will display an AUSTL number on the label. Listed medicines in Australia need to be manufactured according to legislated standards set out in Therapeutic Goods Order 101. TGO101 legislation sets out minimum quality standards for medicines supplied in Australia that display an AUSTL number. It mandates testing for:

- Impurities such as heavy metals (including lead, mercury, cadmium and arsenic), pesticides and residual solvents.
- Dissolution (to ensure the capsule will dissolve once taken).
- Uniformity (to ensure that every capsule is the same).

Final assay testing is also performed to ensure that what we have on the label is in each capsule, and microbiological testing is performed to ensure that no microbial contamination has occurred during the encapsulation and packing process.