

Repairase

Antioxidant, Anti-inflammatory and Immune Support

A unique and powerful combination of antioxidant bioflavonoids, vitamins and trace minerals, including Quercetin and Rutin, buffered Vitamin C, Vitamin A, Vitamin E, Selenium, as well as Bromelain.

Orthoplex Green Repairase provides essential nutrients to help down-regulate inflammatory processes and support effective immune responses.



- Gluten Free
- Lactose Free
- Vegan
- Vegetarian

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Pack Size: 100g oral powder

Recommended Dose: Take 3.1g (approx. 1 rounded 5mL metric teaspoon) in water, one to two times daily, or as recommended by your registered healthcare practitioner.

Storage: Store below 30°C in a cool, dry place, away from direct sunlight.



Full disclosure of excipients in every formulation

Indications

- Contains Quercetin which supports normal inflammatory mediator activity
- Contains antioxidant nutrients
- May support healthy immune function

Excipients

Acacia, citric acid, glycine, malic acid, *stevia rebaudiana* leaf extract, natural lime flavour, maltodextrin.

Warnings

If you are pregnant, or considering becoming pregnant, do not take Vitamin A supplements without consulting your doctor or pharmacist. When taken in excess of 3000 micrograms retinol equivalents, Vitamin A can cause birth defects. The recommended daily amount of Vitamin A from all sources is 700 micrograms retinol equivalents for women and 900 micrograms retinol equivalents for men. This medicine contains Selenium which is toxic in high doses. A daily dose of 150 micrograms for adults of Selenium from dietary supplements should not be exceeded. Vitamin and mineral supplements should not replace a balanced diet.

Each 3.1g (approx. 1 rounded 5mL metric teaspoon) Contains

Quercetin	400mg
Rutoside	500mg
Magnesium ascorbate equiv. Ascorbic acid	1g 850mg
Bromelains	100mg
Zinc (as Zinc gluconate)	4mg
Calcium pantothenate equiv. Pantothenic acid	109mg 99.9mg
Selenium (as Selenomethionine)	13µg
d-alpha-Tocopheryl acid succinate equiv. d-alpha-Tocopheryl acid succinate	200mg 242IU
Retinol palmitate equiv. Vitamin A (2500IU)	1.39mg 750µg RE*

*RE - Retinol Equivalents

Technical Information

Addressing inflammation, oxidative stress, and poor immunity is fundamental to maximising positive health outcomes. The synergistic use of evidence-based nutritional supplements such as Quercetin, Rutin, Bromelain and specific vitamins and trace minerals may help fulfil this aim.

Contains Antioxidant Nutrients

The numerous health effects of Quercetin are thought to be based on its antioxidant activity.^{1,2} In fact, Quercetin appears to be the most powerful flavonoid to protect the human body against free radical insult. Flavonoids are known to scavenge oxygen radicals by inhibiting xanthine oxidase and lipid peroxidation, by immobilising and preventing adhesion of leukocytes to the endothelial wall, and (with and without Ascorbic Acid) by reducing the incidence of oxidative damage to glutathione-depleted neurons.¹⁻⁴

Rutin and Quercetin appear to work synergistically;⁴ combined they have been shown to suppress the various stages of oxidation, including the formation of superoxide ions and the generation of hydroxyl (or cryptohydroxyl) radicals.⁵

Vitamin E, the body's principal fat soluble antioxidant, exerts distinctive antioxidant activity against peroxy free radicals, singlet oxygen free radicals and superoxide free radicals, whilst also reducing lipid peroxidation. As part of the interlinking network of antioxidants, Vitamin E works together with other antioxidant vitamins and trace elements, such as Vitamin C, Vitamin A, Selenium, and Zinc.⁶

Contains Quercetin, Which May Help Down-Regulate Inflammation - May Support Healthy Immune Function

Apart from their antioxidant activity, flavonoids possess antiviral, anti-microbial, anti-inflammatory and anti-histaminergic properties that affect various cell types. Molecular targets are generally inhibited by flavonoids through downregulation or suppression of various inflammatory pathways and functions.^{7,8}

Quercetin's anti-inflammatory activity is thought to be due to both its antioxidant action, as well as its direct inhibitory effects on inflammation-producing enzymes (cyclooxygenase, lipooxygenase), and inflammatory mediators (leukotrienes and prostaglandins).^{1,4} Furthermore, Quercetin has been shown to significantly inhibit the production and gene expression of TNF- α (a major pro-inflammatory cytokine involved in systemic inflammation, but modulated by oxidative stress) in a dose-dependent manner, thereby reducing histamine secretion in a number of tissues and cells, including mast cells and basophils.^{4,8,9} Quercetin has also been shown to modulate exercise-induced changes in plasma cytokine levels.¹⁰

Randomised, double-blind, placebo-controlled trial: The purpose of this trial was to compare the influence of two different doses of Quercetin (500 and 1000 mg/day) to placebo on upper respiratory tract infection (URTI) rates in a large group of individuals (n=1002) aged 18 to 85 years over a twelve week period. While no significant differences in URTI outcomes were found between treatment groups, body mass index or age, a separate analysis of individuals 40 years and older showed lower URTI severity (36% reduction, P=0.020) and URTI total sick days (31% reduction, P=0.048) for the group that was supplemented with 1000mg of Quercetin/day compared to placebo.¹¹

The mechanism of action of Bromelain involves various interactions with cells and pathways associated with inflammation and immunity,¹² including some of the body's common responses to inflammation, namely oedema and swelling. As a proteolytic compound, Bromelain promotes fibrinolysis, thereby increasing tissue permeability and promoting reabsorption of fluid into the circulation. Likewise, Rutosides and other Rutin compounds have documented effects on capillary permeability, oedema and swelling that result from inflammation.^{13,14} Other functions of Bromelain include the induction of phagocytosis and cytotoxicity by granulocytes.¹⁵

Antioxidant vitamins and trace minerals, including Vitamin A, C, E, Selenium and Zinc, are able to influence various aspects of innate immunity by reversing the Th2 cell-mediated immune response to pro-inflammatory Th1 cytokines and by supporting immune cell function.¹⁶ They also help counteract adverse effects of free radical damage to cellular tissues, and mediate the production of proinflammatory cytokines and prostaglandins.¹⁷

Magnesium Ascorbate, a non-acid type of Vitamin C, acts as an important antioxidant, anti-histamine, and immune-stimulant. It is known to favourably modulate and regulate a number of immune cells, such as lymphocytes, phagocytes and natural killer cells, as well as antibodies and cytokines.¹⁸

Clinical Trial: This study aimed to assess the efficacy of Bromelain in controlling oedema in the inflamed area after third molar surgery in 46 patients. After the first extraction (left mandibula surgery), each patient received the antibiotic cephazolin (1g/12h/os, along 6 days), as well as bromelain (40mg/6h/os, along 6 days). After 60 days, patients underwent a second extraction (right mandibular surgery), receiving cephazolin (1g/12h/os, along 6 days), as well as the nonsteroidal anti-inflammatory ketoprofen (100mg/12h/os, along 6 days). Data analysis showed a similar reduction in postoperative oedema resulting from bromelain or ketoprofen administration, demonstrating the effectiveness of Bromelain in treating postoperative oedema after dental surgery.¹⁹

References available upon request.

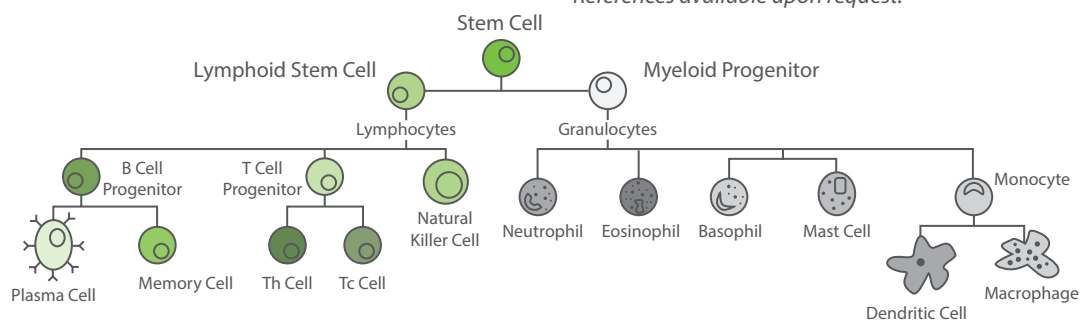


Figure 1: Cells of the Immune System