

NU DEFENCE ROSEHIP – NATURAL DEFENCE



- Sugar Free
- Antioxidant
- Zinc and Selenium

NU Defence Rosehip is an essential supplement with natural rosehip extract as a booster for the immune system defence. It is combined with Vitamin C, Selenium, Zinc that helps to maintain the immune function and Calcium, that ensures the strength and stability of bones, teeth and supports the muscle function.

EACH EFFERVESCENT TABLET CONTAINS

Calcium Carbonate	625 mg
providing elemental calcium	250 mg
Ascorbic Acid (Vitamin C)	300 mg
<i>Rosa canina</i> L (Rosehip)	50 mg
[fruit powder]	
Zinc amino acid chelate	40 mg
providing elemental zinc	8 mg
Selenium amino acid chelate	20 µg
providing elemental selenium	

WHAT THE SCIENTISTS SAY

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Given the important roles vitamin C plays in enzyme activation, oxidative stress reduction, immune function and carcinogen reduction, daily supplementation of the vitamin can be considered prudent for maintaining optimal concentrations in plasma and tissues [1]. However, there are a number of nutraceuticals which work synergistically with vitamin C to

further boost the body's immune function. Of particular interest are extracts of rose hips, *i.e.* the red berries of the dog rose (*Rosa canina*) plant, elemental zinc, selenium and calcium, all of which are found in this advanced effervescent.

Rose hip extracts are particularly rich in polyphenols (such as garlic acid, catechin and quercetin), vitamins C, E, B and carotenoids (β -carotenoid, lycopene β -cryptoxanthin, rubixanthin, zeaxanthin and lutein) (see Fig. 2), most of which have potent antioxidant activity among other health benefits [2]. In fact, rose hips are so rich medicinal properties that it has been described since the time of Pliny the Elder (23–79 BC), a renowned ancient Roman naturalist [3]. In recent times, their incorporation into therapeutic regimens has grown significantly as clinical science advances in the natural health arena [4].

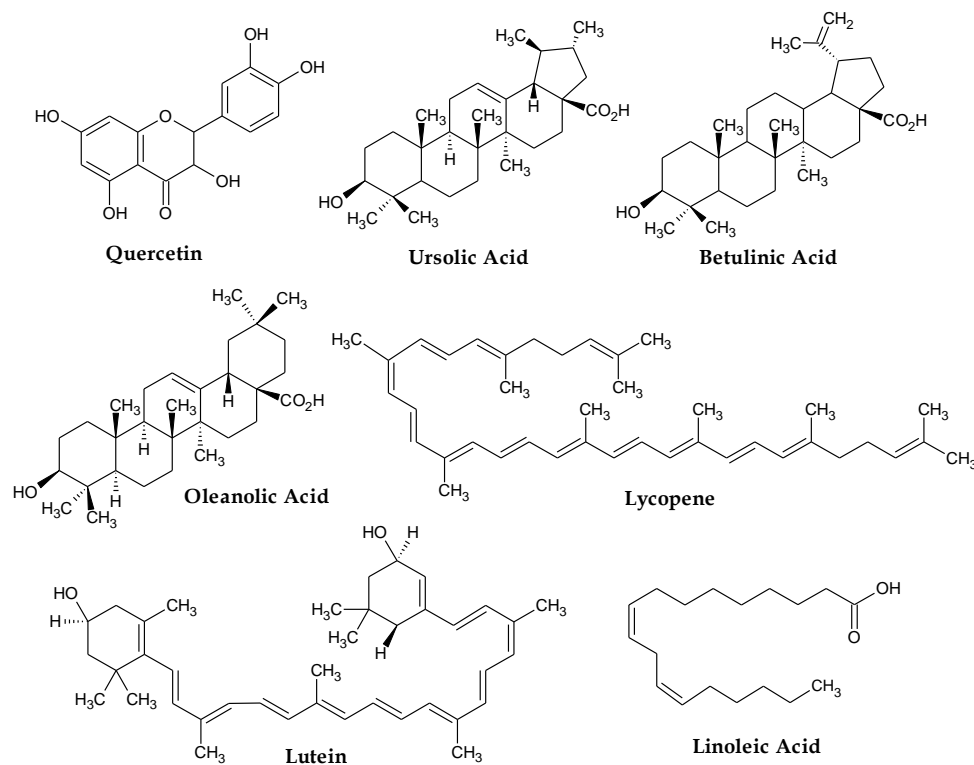


Figure 2: Examples of biologically active molecules found in rose hip extracts.

When homeostasis is disrupted by lifestyle, stresses or hormonal fluctuation, the body's immune system becomes agitated. Rose hips have been shown to help overcome its adverse effects through immunomodulation [5]. In an attempt to elucidate the mechanism, rose hip triterpene acids (oleanolic, ursolic and betulinic acid) were found to inhibit self-antigen and LPS-induced cytokine production and CD4⁺ T-cell proliferation, *in vitro* [6]. Furthermore, anti-

inflammatory and analgesic effects of rosehip have been reported whereby extracts inhibited NF- κ B signaling and pro-inflammatory enzymes, decreased inflammatory cytokine and chemokine production as well as lowered C reactive protein levels [7]. Other studies found that a galactolipid (*i.e.* GOPO), isolated from rosehip seeds and fruits, exhibited potent anti-inflammatory effects *in vitro* and clinically reduced the complaints of patients with osteoarthritis, while improving their quality of life [7, 8]. With respect to viral infections, trials show that rose hip extract not only reduced the incidence of colds by 18%, but further decreased the severity of symptoms in winter season [9].

For aesthetic purposes, a double-blind trial study showed that oral supplementation of rose hip powder showed statistically significant improvement in crow's-feet wrinkles, skin moisture, and elasticity. It further resulted in the increased longevity of erythrocyte cells, likely due to the stabilizing effect on cell membranes and support of structural collagen – both of which are important in reducing the signs of aging [3].

Zinc is considered an essential nutrient, the second most abundant trace mineral in the body and necessary for over 300 enzymatic processes including DNA synthesis, protein production and the development and function of immune cells [10, 11]. In combination, clinical trials have shown that buffered vitamin C and zinc supplementation shortens the duration of respiratory tract infections, including the common cold [12]. This has largely led to their clinical use in the prevention and treatment of acute respiratory viral infections in recent years [13].

Another essential nutrient, selenium, is well-known for its role in DNA synthesis, repair and cell apoptosis. Its mechanism involves enzymes which remove damaging substrates formed during oxidative stress [14]. More importantly, selenium supplementation enhances immune function, catalysing an increase in the capacity of lymphocytes to respond to stimulation with mitogen or alloantigen, as well as to proliferate and differentiate into cytotoxic effector cells [15]. Selenium supplementation is further noted to have direct tumour cytotoxic effects, antiviral properties and can improve neurological function [15, 16]

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