NU ACTIVE C CALCIUM – IMMUNE SUPPORT

- Sugar Free
- Antioxidant
- Citrus Bioflavonoids

NU Active C is a high-potency supplement that provides Vitamin C in the optimal dosage (1000mg) for a strong immune system. Calcium ensures the strength and stability of bones, teeth and supports the muscle function. Citrus Bioflavonoids are natural antioxidants that protect the cells from oxidative stress.

EACH EVERVESCENT TABLET CONTAINS

Ascorbic Acid (Vitamin C)	1 000 mg
Calcium Carbonate	625 mg
providing elemental calcium	250 mg
Citrus aurantium L (Bitter Orange)	15 mg
[providing 35% citrus bioflavonoids)	5,25 mg

WHAT THE SCIENTISTS SAY

NU Active C Calcium- Immune Support

Physical activity acts as a natural modulator of the immune system where pro- and anti-inflammatory cytokines are released and lymphocyte circulation increases among other physiological changes [**1**]. Calcium plays an important regulatory role in effecting the body's response to activity and other stimuli due to its ability to trigger events intracellularly. Organelles are able to release stored calcium into the cytosol, which can be reversed *via* an active pump mechanism. A rise in cytosolic calcium in various cells are responsible for muscle contraction, vesicular secretion, some forms of cell aggregation (*e.g.* blood clotting), cell

transformation, cell division and the activation of intermediary metabolism [**2**], all of which are essential for a healthy, active lifestyle.

In skeletal, heart and smooth muscles, cytosolic calcium concentrations (released by sarcoplasmic reticulum) control the interaction of thick and thin filaments in muscle fibres. Calcium complexes with troponin or calmodulin allow for myosin cross-bridges to form with actin, enabling each muscle to contract [**2**, **3**]. Similarly in neurons, an increase in calcium concentration initiates a release of neurotransmitters (*e.g.* acetylcholine) which "carry" chemical signals between nerve cells and target cells [**4**]. It's unmistakable that the activity and quality of a human body requires a proficient and regular supply of calcium for processing within its cells.

The more commonly associated benefit of calcium is with the prevention and improvement of bone and tooth related conditions, largely because it's a major structural component of bone tissue, dentine and enamel. A recent study involving nearly 1500 multi-ethnic women found that supplementation was associated with a slower rate of decline in femoral neck and lumber spine bone mineral density (BMD) among middle-aged and older women [**5**]. Another trial consisting of men and women over 60 years old found that supplementation can prevent loss of BMD as well as reduce femoral medullary expansion, secondary hyperparathyroidism and high bone turnover [**6**]. Similarly, higher dietary calcium intake has been associated with a higher lumbar BMD in women [**7**]. Although more clinical studies are required to ascertain the full effects of calcium on osteoporosis and related conditions, it is conceivable that supplementation is beneficial for bone integrity since bone tissue serves as a reservoir for calcium during critical metabolic needs (*i.e.* growth phases, deficiency or aging) [**8**].

Interestingly, vitamin C has also been reported to positively affect BMD. It was found that women who took vitamin C plus calcium and estrogen had the highest BMD at the femoral neck, total hip, ultradistal radius and lumbar spine, likely due to its activities of enhancing collagen synthesis and stimulating alkaline phosphatase activity - a marker for osteoblast formation [**9**]. Like calcium, vitamin C also plays a crucial role in the nervous system, particularly in processes of cell differentiation, maturation, neuronal survival and the modulation of neurotransmission [**10**]. NU Active C Calcium - Immune Support effervescent effectively combines these two powerful nutraceuticals, which are not just key for improved

bone health and physical activity, but also work together in boosting the immune system and improving neurological function.

Reference List

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