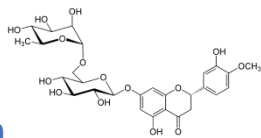




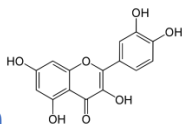
Esperivit® (Vanda Omeopatici srl, Frascati) is a new food supplement in tablets containing 100 mg of Hesperidin, 100 mg of Quercetin and 50 mg of Vitamin C. As a food supplement it cannot claim preventive or therapeutic properties, but it supports the body in conditions of increased need for particular substances. Here is a brief review of the current scientific knowledge on the various compounds.



Hesperidin

It is a glycoside flavanone present in citrus fruits, in doses between 10 and 30 mg per 100 grams of fruit [1-3].

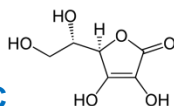
- "In silico" studies (simulation of molecular interactions) have identified hesperidin as the candidate flavonoid to inhibit the binding of the SARS-CoV-2 virus to cellular ACE2 receptors and to block the major protease responsible for viral replication [4-7], confirming the antiviral capabilities reported with SARS virus [8].
- Promotes the redox balance of the cell [9, 10] by counteracting oxidative stress [11-13].
- Modulates inflammatory and immune reactions [14-17]
- Beneficial effects on glucose metabolism, blood vessels and blood pressure [18-25].
- Safety and good tolerability up to very high doses [26, 27]



Quercetin

It is one of the most abundant flavonoids, present in various foods such as capers (233.8mg/100g), white onion (8.1 mg / 100 g), red onion (31.8mg / 100 g); peas 14.3 mg / 100 g) [2,28].

- It shows dose-dependent antiviral activity in vitro against various viruses [29]. It is a candidate for blocking the "Spike" protein [29, 30] and has affinity for key proteins involved in the SARS-coronavirus infectious cycle, such as PL (pro), 3CL (pro), [6, 31-33], with different interactions than hesperidin. It interferes with the expression of proteins necessary for the infection of influenza viruses and coronaviruses [30, 34, 35]
- Beneficial effects in metabolic syndrome [36-38], hypertension [39], dyslipidemias [40, 41], allergies [42], chronic inflammatory diseases [43, 44]. It inhibits the release of histamine from human basophils in vitro [45].
- It is conceivable that a high dose of flavonoids is present during and after ingestion in the oral cavity and digestive tract, thus constituting a local obstacle to the entry of the virus into these sites of the body [46-48].



Vitamin C

Present in many fruits, including citrus fruits (10-30 mg in 100 ml of orange juice) [2]

- It has antioxidant capacity [49, 50] and many beneficial effects on the body and contributes to the normal function of the immune system, especially in people exposed to short periods of stress, intense exercise or in a cold environment [51, 52]. Synergizes with quercetin [53].
- Considering the low cost and high safety of natural foods rich in vitamin C, it has been suggested that it could be useful to consider whether to increase the daily intake of these foods in conditions of risk of respiratory infections [54-56].

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