Turmeric

Turmeric is a pigment that comes from Curcuma longa, and it is commonly used as a seasoning and food coloring. It is also used as a cosmetic ingredient or in pharmacological preparations due to its therapeutic properties, associated with its antioxidant and anti-inflammatory activity (1).

Free radical-mediated oxidation of membrane lipids and oxidative damage to DNA or endogenous proteins are associated with a large number of pathologies, including cancer, atherosclerosis, and neurodegenerative diseases. That is why it is believed that curcumin may be helpful against these pathological conditions (1,2,3).

The anti-inflammatory effect of curcumin is probably mediated by its ability to inhibit cyclooxygenase-2 (COX-2), lipoxygenase (LOX), and inducible nitric oxide synthase (iNOS). COX-2, LOX and iNOS are important enzymes that mediate inflammatory processes, and that are in an imbalance in pathological conditions (1,2)

Antiinflamatory effect

Tumor necrosis factor alpha (TNF-alpha) is an important mediator of inflammation in most diseases. In numerous studies, curcumin has been shown to be able to inhibit or reduce TNF-alpha levels, thereby exerting a powerful anti-inflammatory effect (1,2).

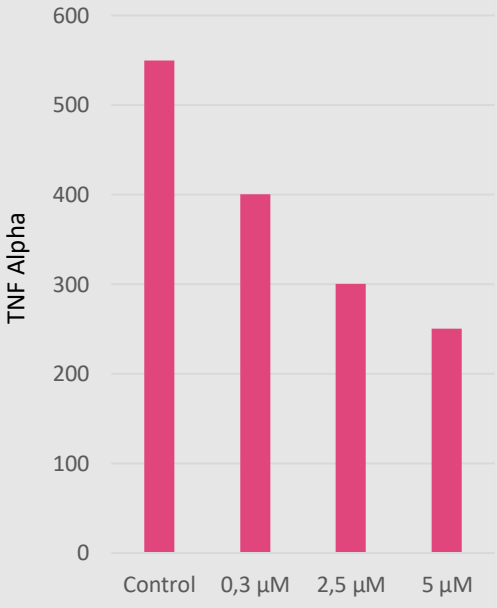

Figure 1. TNF alpha concentration in tumor cells in vitro after treatment with turmeric (2).

Antioxidant effect

Curcumin has been shown to improve systemic markers of oxidative stress. There is evidence that it can increase the activities of antioxidants such as superoxide dismutase (SOD) (1,3).

Curcuminoid supplementation has also shown an improvement in plasma SOD and catalase activities, as well as concentrations of glutathione peroxidase (GSH) and lipid peroxides (3)

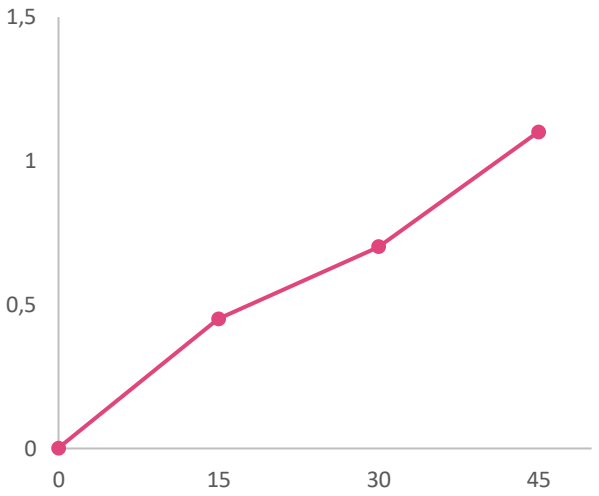

Figure 2. Antioxidant effect of turmeric at different concentrations (15, 30 and 45 µM) measured in vitro by the ferric thiocyanate method (3).

Other benefits

Linked to these anti-inflammatory and antioxidant effects, its effect as a weight loss supplement has also been studied. It has been shown that it can help to obtain better results in terms of body measurements and body composition in overweight patients, especially if this condition is characterized by typical parameters of metabolic syndrome (4).
Its effect against alopecia has also been studied, demonstrating to improve the results of treatment with minoxidil (5).

Uses

- Arthritis
- Atherosclerosis
- Metabolic syndrome
- Psoriasis
- Diseases that present with inflammation
- Alopecia

Literature

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