

Natural Anti-Inflammatory Agents

Monograph Prepared by Herb Joiner-Bey, N.D.

Boswellia serrata Extract (65% boswellic acids)	200mg
Bromelain (2400gdu-3600mcu/gm)	100mg
Curcumin Extract (95%)	200mg
Quercetin	100mg

Recommended dosage: 2 or 3 capsules 3-4 times per day.

INDICATIONS:

- Chronic inflammation
- Rheumatoid arthritis
- Sports injury
- Acute traumatic inflammation

Boswellia serrata

- Major constituents: boswellic acids (pentacyclic triterpenic acids) and essential oils
- Used traditionally in Indian Ayurvedic medicine to alleviate symptoms of chronic rheumatic inflammation.
- Inhibits the production of pro-inflammatory leukotrienes by the enzyme 5-lipoxygenase.
- Reduces the degradation of glycosaminoglycans, major components of connective tissue, in experimental models with lab animals. (Wildfeuer, Ammon, Satavhi)
- Three 400 mg tablets 2 or 3 times daily of Boswellia extract was found to be effective in the treatment 260 individuals with rheumatoid arthritis. (Etzel)

Bromelain

- Mixture of digestive enzymes from the stem of the pineapple plant (*Ananas comosus*).
- Reduces pain and inflammation associated with arthritis, trauma, or sports injury. (Klein)
- Prevents edema after traumatic incident or surgery.
- Prevents and reduces edema by inhibiting formation of fibrin within damaged tissue, allowing lymph fluids to pass with less obstruction.
- May interfere with the arachidonic acid cascade, thereby impeding the formation of pro-inflammatory eicosanoids. (Vellini)
- Blocks synthesis of kinin compounds that increase edema and pain. (Ito)

Curcumin

- Yellow pigment of turmeric rhizome (*Curcuma longa*).
- Acts as a powerful antioxidant against active oxygen moieties.
- Displays anti-inflammatory effects equivalent to some NSAIDs in acute models of inflammation and half as potent in chronic inflammation. (Satoskar)
- Inhibits lipoxygenase and cyclooxygenase and the formation of inflammatory leukotrienes and prostaglandins. (Huang)
- Promotes fibrinolysis.
- Inhibits the production of pro-inflammatory peroxynitrite radicals and nitrite. (Chan)
- Stabilizes lysosomal membranes. (Wichtl, p174)
- Inhibits pro-inflammatory gene expression. (Jobin)

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Quercetin

- Backbone (aglycone) of a number of other flavonoid compounds.
- One of the most active flavonoid compounds studied.
- Inhibits manufacture and release of histamine from mast cells and basophils.
- Exhibits significant antioxidant activity, neutralizing free radical moieties, which can exacerbate inflammation.
- Demonstrates an inhibitory effect on acute inflammation in lab animal models. (Taguchi, Romero)

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