

Protease IFC (aka Inflammatory Control) is a unique formulation of highly active proteolytic enzymes, vitamins, minerals, and herbs that is designed to help modulate the inflammation process. The synergistic action of these highly absorbable enzymes and the powerful, natural ingredients facilitates the removal of oxidized molecules and necrotic tissue, aids in the modulation of free radicals, and supports the regulation of cytokines. This product also supports the healing and mediating molecules of the body, thus enhancing the body's overall health and vitality.

SUPPLEMENT FACTS			
Serving Size 1 Capsule			
Amount Per Serving	% Daily Value		
Vitamin A (100% as beta carotene)	7,900	IU	158%
Vitamin C (as magnesium ascorbate)	9	mg	15%
Vitamin E (as d-alpha tocopheryl succinate)	2	IU	7%
Calcium (as calcium citrate)	0.57	mg	<2%
Magnesium (as magnesium ascorbate)	3	mg	<2%
Zinc (as zinc citrate)	0.5	mg	3%
Selenium (as selenium citrate)	16	mcg	23%
Tzyme™ Protease Blends (58,359 HUT) (3,108,000 FCCPU) (acid, neutral, alkaline, exo/endo peptidase, bromelain, papain)	182	mg	*
Tzyme™ AntiOx Blends (Kelp, Beta Carotene, Irish moss, Rutin, Grape seed extract, Quercetin, Magnesium ascorbate, Lipoic acid, Citrus bioflavonoids complex, Rose hips, SOD, Hesperidin 25%, Turmeric root, Selenium citrate, L-glutathione, Asian ginseng, Eleuthero, CoQ10, Gingko biloba leaf, Green tea extract, Lutein 5%, Catalase, Flaxseed, Lycopenes 5%, Gingko extract)	355	mg	*
* Daily Value not established			

Other ingredients: Vegetarian Capsules (cellulose & water)

Enzyme activity is measured in Food Chemical Codex (FCC) units.
Store tightly sealed in a cool, dry place. Keep out of reach of children.

Tzyme™ is the trademark of a proprietary blend of highly active, functional enzymes. These enzymes are pH balanced and GI tract stable. This blend is formulated to enhance the digestive process and impart systemic benefits.

Studies have indicated that oral hydrolytic enzymes affect cytokine synthesis and modulatory effects¹. For instance, TNF-alpha synthesis, which is a necessary step in a host's defense against tumor cells², was impaired when experimentally inactivated oral proteolytic enzymes were used³. Thus, active, gastrointestinal stable and functional oral enzymes that are absorbed in the blood stream can provide therapeutic ap-

plications. In addition, studies have shown that oral proteolytic enzymes increased the tumoricidal and cytotoxic activities of polymorphonuclear neutrophils⁴.

Bromelain, a protease derived from the pineapple plant, has been used for many years as a digestive aid, as a burn debridement agent, and as an anti-inflammatory agent. Its actions help prevent swelling/edema, promote smooth muscle relaxation, inhibit platelet aggregation, and enhance antibiotic absorption. Bromelain is also used in ulcer prevention, sinusitis relief, cancer treatment, appetite inhibition, and in the shortening of labor^{5,6}.

Papain, a highly purified extract of proteolytic enzymes from the *Carica papaya*, is very effective for the reduction of edema and inflammation, and cytotoxin binding. It is also noted for the acceleration of wound healing and thus is a key ingredient in this formulation. Papain can also be used as an oral analgesic and may reduce gastric acid secretion to help prevent endogenous ulcers⁷.

Tzyme™ Anti-Ox Blend - This comprehensive blend of antioxidant ingredients scavenges and corrects molecules that have been damaged by free radicals, thus helping to prevent a free radical domino effect within the body. The natural minerals, bioflavonoids, herbs, and vitamins in this unique formulation are designed to help control inflammation and enhance the healing process.

Rutin, a bioflavonoid, has been demonstrated to be a potent anti-inflammatory agent in recent studies, in part due to its inhibitory effect on phospholipase A₂⁸.

The bioflavonoid **Quercetin** has been shown to modify eicosanoid biosynthesis (antiprostanoic and anti-inflammatory responses)⁹ and to inhibit membrane lipid peroxidation¹⁰. Quercetin even has potent anticarcinogenic, antioxidative, and anti-inflammatory properties¹¹.

Grape Seed Extract contains concentrated procyanidolic oligomers (PCO), which are mixtures of dimers, trimers, and larger polymers of proanthocyanidins. The PCOs scavenge free radicals and inhibit decarboxylase in the inflammatory process, thereby reducing inflammation. PCOs are among the best-studied and most effective bioflavonoids, based in part on their powerful antioxidant activity¹².

Kelp and Irish Moss are rich sources of a wide variety of minerals, including potassium, sodium, calcium, chlorine, copper, iron, iodine, selenium, zinc, bromine, and manganese¹³. One consequence of inflammation is a sizable loss of nitrogen, potassium, magnesium, phosphate, and zinc in the body, and thus the subsequent retention of body salt and water.

Tzyme™ Protease Blend - This proprietary blend of enzymes consists of alkaline, neutral, and acid proteases together with exo/endo peptidase, bromelain, and papain. These enzymes are active in a wide range of pH's, ensuring that proper protein digestion will initiate in the stomach. The addition of endo- and exo-peptidase in this product, which provides a wider range of specificities, ensures the highest degree of protein hydrolysis.

INDICATIONS:

SLOW TISSUE REPAIR

Tissue repair and/or wound healing is usually divided into three phases. The **inflammatory phase** is characterized by platelet accumulation, platelet coagulation, and leukocyte migration. The **proliferate phase** involves re-epithelialization, angiogenesis, fibroplasia, and wound contraction. The **remodeling phase** takes place over a period of months. During this stage of tissue repair, the dermis responds to injury with the production of collagen and matrix proteins and then returns to its pre-injury structure. Research has shown that these processes are regulated by various cytokines¹⁴. Oral protease supplementation leads to the formation of activated $\alpha 2M$, which significantly modulates tissue cytokines¹⁵.

RECOMMENDED DOSAGE:

Take one (1) to three (3) capsules three times daily for a chronic inflammatory condition. Take three (3) to five (5) capsules three times daily for an acute injury. If you have difficulty swallowing capsules, then remove contents from capsule, mix with a small amount of tepid water, and ingest immediately.

This product should be taken on an empty stomach.

Dosage may be increased according to individual needs as directed by a health care professional.

Available in bottles of 60 and 120 capsules.

NO FILLERS/NON-ALLERGENIC

Protease IFC should be taken in addition to:

**Digest
Protease
Probiotic**

REFERENCES:

1. Desser, L., Rehberger, A., et al. 1993: Int. J. of Cancer Res. and Treatment 50: 403.
2. Arai, K., Lee, F., et al., 1990: Ann. Rev., Biochem. 59:783
3. Desser, L., Rehberger, A., and Paukovits, W. 1994: Cancer biotherapy 9: 253.
4. Zavadova, E., Desser, L., et al., 1995: Cancer biotherapy 10: 147.
5. Taussig, S.J., and Batkin, S., et al., 1988; J. ethnopharmacol 22:191.
6. Gerard, G., 1972: Agressology 13:261.
7. Emele J.F., Shanaman J., Winbury M.M. "The Analgesic Anti-Inflammatory Activity of Papain." Warner Lambert Research Institute, Department of Pharmacology; Morris Plains, New Jersey.
8. Lindahl, M. & Tagesson, C. "Flavonoids as phospholipase A2 inhibitors: importance of their structure for selective inhibition of group II phospholipase A2" Inflammation 1997; 21: 347-56
9. Formica J.V.; Regelson W. "Review of the biology of Quercetin and related bioflavonoids" Food Chem Toxicol 1995; 33: 1061-80.
10. Laughton, M.J., Halliwell, B., Evans, P.J., and Houlst, J.R. "Antioxidant and pro-oxidant actions of the plant phenolics quercetin, gossypol and myricetin. Effects on lipid peroxidation, hydroxyl radical generation and bleomycin-dependent damage to DNA" Biochem Pharmacol 1989; 38: 2849-2865.
11. "Potential Health Effects of the Dietary Flavonol Quercetin," Hertog, M. G. L. and Hollman, P. C. H., European Journal of Clinical Nutrition, 1996; 50:63-71.
12. Absorption of Orally Administered Enzymes M.L.G. Gardner and K.-J. Steffens, eds. Springer-Verlag, Berlin, 1995.
13. The Encyclopedia of Medicinal Plants A. Chevallier, DK Publishing, New York, 1996, p. 211.
14. Moulin V. "Growth factors in skin wound healing" Eur J Cell Biol 1995; 68: 1-7.
15. LaMarre J., Wollenberg G.K., Gonias S.L. & Hayes M.A. "Biology of Disease: Cytokine binding and clearance properties of proteinase-activated $\alpha 2$ -macroglobulins" Lab Inv 1991; 65: 3-14.

These statements have not been evaluated by the U.S. Food and Drug Administration. These products are not intended to diagnose, treat, cure or prevent any disease.