Relief & Rescue

CLINICAL APPLICATIONS

- Supports Healthy Tendon and Ligament Function
- Maintains Normal Inflammatory Balance
- Addresses Post-Workout Muscle Tightness
- Promotes Normal Tissue Recovery and Repair

MUSCULOSKELETAL HEALTH

This product combines the functional formulations of four top products in a single pack to create the ideal acute nutritional protocol for soft tissue and muscle support. It promotes healthy connective tissue, supports the body's healing process and relieves post-workout muscle soreness and stiffness, all while maintaining normal inflammatory balance. This product includes the following supplements: 2 Traumeric capsules, 3 Vascuzyme tablets, 2 GABAnol capsules and 1 C-Flav capsule. These ingredients provide a multidimensional approach for soft tissue support delivered in convenient packets for ease of use and better compliance.

Overview

Inflammation is a natural part of the body's immune response, a cascade triggered to protect the body and maintain normal tissue repair. This product provides a full spectrum of botanicals, enzymes and micronutrient factors to maintain normal inflammatory balance and address discomfort of ligaments and tendons from exercise. In addition, gamma-aminobutyric acid (GABA) and glycine are included to support muscular relaxation. The addition of flavonoids, such as quercetin and rutin provide additional soft tissue and blood vessel support.

Turmeric (Complete Turmeric Matrix)†

Whole-root turmeric and its active components have been used in traditional Ayurvedic medicine for centuries. In herbal medicine of old, practitioners used teas, tinctures and extracts of all types. In the 21st century, as research grew on the benefits of turmeric, the focus shifted to identifying and isolating one individual compound, curcumin, rather than delivering the comprehensive benefits of a matrix of turmeric bioactives. As a result, concentrating curcumin led to poor absorption and pharmaceutical methods were applied to bypass the gut and increase its bioavailability. The glaring disadvantage of applying this pharmaceutical model to botanicals is that it misses the benefits of other bioactives present within the turmeric matrix and their positive effects on the microbiome.

New research on turmeric shows the additional bioactives in turmeric have additional benefits and enhance bioavailability. The Complete Turmeric Matrix includes compounds from the entire turmeric root, all working together as nature intended to deliver better results. The Complete Turmeric Matrix formulation contains standardized amounts of 45%–55% curcuminoids, 2%-6% turmerin protein and 3%-8% volatile oil, plus other components that make up the whole turmeric root.[1,2] This matrix of bioactive compounds supports a healthy GI tract, enhances detoxification, creates a healthy microbiome, and helps maintain normal inflammatory balance. The bioactives in CTM support the gut lining and immune system, modulate acute nervous system signaling, low mood and fatigue, and provide cardioprotective and neuroprotective activity via antioxidant mechanisms.[3-5] CTM also plays a crucial role in maintaining inflammatory balance in a variety of tissues due to its strong MAPK and NFkB-modulating properties. Studies show CTM supports balanced inflammation in the joints and the GI tract.[6-8] In a randomized, double-blind, placebo-controlled clinical trial published in the *Journal of Medicinal Food*, 36 patients with immune joint challenges received either a 250 mg dose of CTM, a 500 mg dose of CTM, or placebo twice per day. Objective clinical measures and lab markers were assessed, and the results indicated that CTM improved outcome measures and maintained normal inflammatory balance.[9] CTM's bioactives, along with Traumeric's quercetin, rutin and bromelain, promote advanced GI mucosal health,[6-8] intestinal permeability,[10] increase microbiome diversity[11] and balance immune responses to lipopolysaccharides (LPS).[12]

Proteolytic Enzymes (as Vascuzyme)†

This product also includes Vascuzyme, which provides the powerful enzymes bromelain, trypsin, amylase, lipase, lysozyme, cellulase, peptidase and alpha chymotrypsin. This combination has been used for many years in Europe as part of a multidimensional approach for tissue repair and recovery. Vascuzyme studies have

† These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

highlighted the efficacy of systemic enzyme therapy for a variety of uses, including maintaining normal inflammatory balance, nasal passage health, bronchial health,[8,9,24] musculoskeletal health and exercise-related recovery.[10-12, 16,17,19] In vitro, animal and human data show that enzyme therapies are capable of cleaving immune complexes, which are known inflammatory mediators.[21-23] In one study, among four different types of immune complexes prepared in vitro and incubated with different concentrations of an enzyme mixture (papain or pancreatin) approximately 90% of the antigen complexes were cleaved by low doses of enzymes. In addition, antibody complexes were gradually cleaved by concentrations from 5-80 mg.[22] Proteolytic enzymes have also been shown to reduce levels of the immune marker, TGF-β (Transforming Growth Factor beta), by converting the protease inhibitor alpha2M from the slow form into the fast form, which binds and inactivates TGF-β. In one study, oral proteolytic enzyme therapy reduced TGF-β levels, maintaining normal inflammatory balance.[14,18,19] A study done in children who were given either a polyenzyme mixture or a monoenzyme agent, found that those receiving the polyenzyme mix maintained optimal balance of proinflammatory cytokines (IL-2, IL-6, and TNF-α). Additionally, the beneficial cytokine IL-4 demonstrated the potency of polyenzyme therapy to maintain normal inflammatory balance and promote tissue repair. In addition, enzyme therapy supports improvements in exercise-induced discomfort, stiffness and mobility[15], especially when helping to support cartilage and joint function in the knee and hip.[17] Strong peptidase enzymes have been used in both Japan and Europe for maintaining normal inflammatory balance since the early 1980s, with systematic reviews supporting their beneficial role in lowering the release of harmful amines in various tissues, balance the bodies systemic inflammatory burden, as well as supporting the breakdown of unwanted proteins without affecting healthy tissues.[15-20] Additionally, in an animal study, similar enzymes were found to be effective as more traditional options for maintaining normal inflammatory balance. Research has also shown that flavonoids, such as rutin and quercetin, maintain normal inflammatory balance. Specifically, they have been shown to reduce the production of TNF-α by macrophages, microglial cells and mast cells helping to maintain normal inflammatory balance.[24] In a randomized, single-blind study on the antioxidant effect of rutin, after six weeks, those receiving rutin had significantly elevated plasma flavonoids (quercetin, kaempferol and isorhamnetin) displaying the powerful antioxidant effect of rutin.[24] Quercetin was also found to decrease the expression and production of TNF-α, IL-1beta, IL-6, and Il-8.[25] Finally, systemic enzyme therapy has been shown to stimulate internal defenses to support a normal musculoskeletal inflammatory response. Systemic enzyme therapy has been shown to modulate cytokine levels and shift "immune balance" toward a calm, efficient immune state recovery.[9-20]

Flavonoids (as C-Flav)†

Quercetin, hesperidin complex, hibiscus flowers, and rutin are also included in the this product to help support healthy capillary permeability and stabilize tendon and ligament function. Quercetin is a potent antioxidant which inhibits inducible ICAM-1 expression, an important pathway for maintaining normal inflammatory balance.[24] Quercetin has been shown to stabilize mast cells by releasing key cytoprotective factors to promote the balanced release of inflammatory mediators from mast cells.[25] It also directly inhibits tyrosine kinase and nitric oxide synthase, and modulates the activity of inflammatory mediator NFkB. Rutin is a flavonoid that has been shown to help maintain levels of the biological antioxidant reduced glutathione. Vitamin C is always recommended with flavonoids such as rutin and quercetin since they act in synergy, and vitamin C has been shown to increase the cross-linking of collagen to improve the structural integrity of ligaments and tendons. It is also a potent antioxidant, reducing oxygen free radicals caused by inflammatory processes.[26]

GABA and Glycine (as GABAnol)†

GABA and glycine are amino acids that impart neurotransmitter activity within the central nervous system (CNS). GABA and glycine both have an inhibitory (calming) effect in the CNS promoting a sense of relaxation in the brain and body by decreasing nerve cell over-firing. Acting as major inhibitory neurotransmitters, GABA and glycine reduce excitatory activity in the brain resulting in a decrease in signals that trigger muscle spasms. This contributes to a natural, muscle relaxing effect for tense and tight muscles and ligaments.

Directions

1 packet per day or as recommended by your health care professional. Best if taken on an empty stomach; take closer to a meal to improve tolerance.

Does Not Contain

Wheat, gluten, dairy products, fish, shellfish, peanuts, tree nuts, egg, artificial colors, sweeteners or preservatives.

Contains the following potential allergens: corn, pineapple/ bromelain and animal/plant enzymes.

Cautions

Very high doses may have contraindications in patients taking Coumadin/ Warfarin, or with patients with bleeding disorders. Do not consume if you are pregnant or nursing.

† These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

Supplement Facts

V8

Serving Size 1 Packet
Servings Per Container 9 & 30

1 packet contains	Amount Per Serving	% Daily Value
Vitamin C (as Ascorbic Acid USP, Acerola Fruit)	470 mg	522%
Vitamin B6 (as Pyridoxine Hydrochloride USP)	50 mg	2,941%
Magnesium (as DiMagnesium Malate)	15 mg	4%
Pancreatin	450 mg	*
Protease (from Pancreatin) (90,000 USP Units)		*
Amylase (from Pancreatin) (90,000 USP Units)		*
Lipase (from Pancreatin) (7,200 USP Units)		*
Papain	180 mg (1,080,000 USP Units)	*
Trypsin	72 mg (18,000 USP Units)	*
Chymotrypsin	27 mg (2,025 USP Units)	*
Bromelain (from Pineapple)	375 mg (900 GDU)	*
Peptidase	40 mg (24,000 Serratiopeptidase Units [SPU])	*
Turmeric Root Extract (Complete Turmeric Matrix) (Standardized to contain 45-55% Curcuminoids, 3-8% Volatile Oil, 2-6% Turmerin)	660 mg	*
Quercetin Dihydrate	385 mg	*
Gamma Aminobutyric Acid (GABA)	250 mg	*
Glycine USP	225 mg	*
Cramp Bark	200 mg	*
Rutin	175 mg	*
Dong Quai Root Extract (Standardized to contain 1% Ligustilide)	150 mg	*
Acerola Fruit (Standardized to contain 17% Vitamin C)	100 mg	*
Hesperidin Complex	50 mg	*
Hibiscus Flowers	50 mg	*

* Daily Value not established

References

1. Sharma RA, Gescher AJ, Steward WP. Curcumin: The story so far. Eur J Cancer. 2005 Aug 1.

2. Moon Y, Glasgow WC, Eling TE. Curcumin suppresses interleukin 1beta-mediated microsomal prostaglandin E synthase 1 by altering early growth response gene 1 and other signaling pathways. J Pharmacol Exp Ther. 2005 Aug 4.

3. Kumar S, Ahuja V, Sankar MJ, Kumar A, Moss AC. Curcumin for maintenance of remission in ulcerative colitis. Cochrane Database Syst Rev. 2012 Oct 17;10:CD008424.

4. Baliga MS, Joseph N, Venkataranganna MV, Saxena A, Ponemone V, Fayad R. Curcumin, an active component of turmeric in the prevention and treatment of ulcerative colitis: preclinical and clinical observations. Food Funct. 2012 Nov;3(11):1109-17.

5. Kapakos G, Youreva V, Srivastava AK. Cardiovascular protection by curcumin: molecular aspects. Indian J Biochem Biophys. 2012 Oct;49(5):306-15.

6. Lopresti AL, Hood SD, Drummond PD. Multiple antidepressant potential modes of action of curcumin: a review of its anti-inflammatory, monoaminergic, antioxidant, immune-modulating and neuroprotective effects. J Psychopharmacol. 2012 Dec;26(12):1512-24.

7. Chainani-Wu N. Safety and anti-inflammatory activity of curcumin: a component of turmeric (Curcuma longa). J Altern Complement Med. 2003 Feb;9 (1):161-8.

8. Taussig SJ, Yokoyama MM, Chinen A, Onari K, Yamakidob M. Bromelain: a proteolytic enzyme and its clinical application. A review. Hiroshima J Med Sci. 1975;24(2-3):185-93.

9. Müller S, März R, Schmolz M, Drewelow B, Eschmann K, Meiser P. Placebo-controlled randomized clinical trial on the immunomodulating activities of low- and high-dose bromelain after oral administration - new evidence on the antiinflammatory mode of action of bromelain. Phytother Res. 2013 Feb;27(2):199-204. Epub 2012 Apr 20.

10. Trickett P. Proteolytic enzymes in treatment of athletic injuries. Appl Ther. 1964;30:647-52.

11. Walker JA, Cerny FJ, Cotter JR, Burton HW. Attenuation of contraction-induced skeletal muscle injury by bromelain. Med Sci Sports Exerc. 1992 Jan;24(1):20-5.

12. Walker AF, Bundy R, Hicks SM, Middleton RW. Bromelain reduces mild acute knee pain and improves well-being in a dose-dependent fashion in an open study of otherwise healthy adults. Phytomedicine 2002;9:681-6.

13. Brien S, Lewith G, Walker A, Hicks SM, Middleton D. Bromelain as a Treatment for Osteoarthritis: a Review of Clinical Studies. Evidence-based Complementary and Alternative Medicine. 2004;1(3)251–257.

14. Desser, L.; Holomanova, D. et al. Oral therapy with proteolytic enzymes decreases excessive TGF-beta levels in human blood. Cancer Chemother Pharmacol. 2001; 47 Suppl.

15. Minaev, S.V.; Nemilova, T.K.; and Knorring, G.I. [Polyenzymatic therapy in prevention of adhesive processes in the abdominal cavity in children]. Vestn Khir Im I I Grek. 2006.

16. Kamenicek, V.; Holan, P.; and Franek, P. [Systemic enzyme therapy in the treatment and prevention of posttraumatic and postoperative swelling]. Acta Chir Orthop Traumatol Cech. 2001; 68(1):45-49.

17. Klein, G.; Kullich, W. et al. Efficacy and tolerance of an oral enzyme combination in painful osteoarthritis of the hip. A double-blind, randomised study comparing oral enzymes with non-steroidal anti-inflammatory drugs. Clin Exp Rheumatol. 2006; 24(1):25-30.

18. Bhagat, S., Agarwal, M., & Roy, V. (2013). Serratiopeptidase: A systematic review of the existing evidence. International Journal of Surgery,11(3), 209-217. doi:10.1016/j.ijsu.2013.01.010

19. Tiwari, M. (2017). The role of serratiopeptidase in the resolution of inflammation. Asian Journal of Pharmaceutical Sciences,12(3), 209-215.

20. Swamy, A. V., & Patil, P. (2008). Effect of some clinically used proteolytic enzymes on inflammation in rats. Indian Journal of Pharmaceuti

21. Steffen, C. and Menzel, J. [Basic studies on enzyme therapy of immune complex diseases]. Wien Klin Wochenschr. 1985; 97(8):376-385.

22. Steffen, C.; Smolen, J. et al. [Enzyme therapy in comparison with immune complex determinations in chronic polyarthritis]. Z Rheumatol. 1985; 44(2):51-56.

23. Steffen, C. and Menzel, J. [Enzyme breakdown of immune complexes]. Z Rheumatol. 1983; 42(5):249-255.

24. Bito T, Roy S, Sen CK, et al. Flavonoids differentially regulate IFN gammainduced ICAM-1 expression in human keratinocytes: molecular mechanisms of action. FEBS Lett. 2002 Jun 5;520(1-3):145-52.

25. Penissi AB, Rudolph MI, Piezzi RS. Role of mast cells in gastrointestinal mucosal defense. Biocell. 2003 Aug;27(2):163-72.

26. PDRhealth.com – Keywords: "Rutin" and "Ascorbic Acid