

# Inflammatone™



Supports Healthy Inflammatory Response\*

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This information is provided as a medical and scientific educational resource for the use of physicians and other licensed health-care practitioners ("Practitioners"). This information is intended for Practitioners to use as a basis for determining whether to recommend these products to their patients. All recommendations regarding protocols, dosing, prescribing, and/or usage instructions should be tailored to the individual needs of the patient considering their medical history and concomitant therapies. This information is not intended for use by consumers.

Inflammatone™ is a synergistic combination of a unique proteolytic enzyme blend, polyphenols, and botanicals formulated to promote a healthy inflammatory response and support the body's ability to degrade fibrinolytic protein compounds that are produced during the inflammatory process.\* By supporting a healthy inflammatory response and helping protect against oxidative stress, the ingredients in Inflammatone™ may be helpful in many situations, which include the support of osteoarthritis (OA) and rheumatoid arthritis (RA) treatments, injuries, and postoperative tissue repair, along with other inflammatory conditions.\*

Proteolytic enzyme therapy may help facilitate tissue repair.<sup>1</sup> These proteolytic enzymes not only work to break down inflammatory proteins, including kinins and fibrin, but also to enhance the breakdown and removal of damaged tissue to support lymphatic drainage.<sup>1</sup>

## Formula Highlights

- Contains InflammEnz™ — a clinically researched proteolytic enzyme blend, which is highly resistant to gastric acid and can be absorbed intact from the small intestine into the bloodstream
- Boswellia resin extract (as Boswellin®) standardized to contain 70% boswellic acids
- Turmeric root extract standardized to contain 95% curcuminoids
- Ginger root extract standardized to contain 5% gingerol
- Rosemary leaf extract standardized to contain 7% carnosic acid
- Includes polyphenols: quercetin, rutin, and resveratrol (as Veri-te™)
- Non-GMO

## Ingredient Highlights

**InflammEnz™** is a unique proprietary blend of effective and clinically researched proteolytic enzymes that contains proteases, serratiopeptidase, trypsin, chymotrypsin, antioxidants, and minerals shown to accelerate the body's repair process caused by soft tissue injuries and/or traumas and surgical operative wounds.<sup>2\*</sup> The protease enzymes activate alpha-2-macroglobulins that work to modulate the inflammatory cascade by binding to pro-inflammatory cytokines (e.g., tumor necrosis factor-alpha [TNF-α], interleukin [IL]-1β) and facilitating their rapid clearance through the liver.<sup>3</sup> Activation of alpha-2-macroglobulins has also been shown to enhance macrophage and natural killer cell activity and to slow the migration of neutrophils to tissue damage sites.<sup>1,3</sup> The oral combination of trypsin and chymotrypsin targets acute phase reactants in the early stage of inflammation to help shorten the period of fibrinolytic shutdown by ensuring plasmin remains available in the serum.<sup>1</sup> In patients with acute injury, trypsin and chymotrypsin were shown to reduce inflammatory tissue destruction and edema by restoring local microcirculation and helping to facilitate the body's repair process.<sup>1</sup>

A randomized clinical trial demonstrated that InflammEnz™ oral supplementation significantly accelerated soft tissue wound repair in 77% of normal, healthy study participants compared to a placebo.<sup>4</sup> In a double-blind clinical trial, subjects who received oral proteolytic enzyme supplementation experienced reduced post-lipoplasty edema, pain, and ecchymosis compared to the placebo group.<sup>5</sup>

## Benefits\*

- Promotes a normal inflammatory response
- Helps maintain healthy joints
- May support the body's repair process after injury
- May support normal tissue repair postoperatively
- Supports the body's antioxidant status

## Supplement Facts

Serving Size 2 capsules  
Servings Per Container 60

| Amount Per Serving                                  | % Daily Value | Amount Per Serving                         | % Daily Value |
|-----------------------------------------------------|---------------|--------------------------------------------|---------------|
| InflammEnz™ Proprietary Blend                       | 222 mg *      | Quercetin                                  | 75 mg *       |
| Proteases, Serratiopeptidase, Trypsin, Chymotrypsin |               | Rutin                                      | 75 mg *       |
| Turmeric Extract                                    | 200 mg *      | Rosemary Extract                           | 50 mg *       |
| ( <i>Curcuma longa</i> )(root)                      |               | ( <i>Rosmarinus officinalis</i> )(leaf)    |               |
| [standardized to contain 95% curcuminoids]          |               | [standardized to contain 7% carnosic acid] |               |
| Boswellia Extract (Boswellin®)                      | 200 mg *      | Trans Resveratrol (Veri-te™)               | 5 mg *        |
| ( <i>Boswellia serrata</i> )(resin)                 |               |                                            |               |
| [standardized to contain 70% boswellic acids]       |               |                                            |               |
| Ginger Extract                                      | 200 mg *      |                                            |               |
| ( <i>Zingiber officinale</i> )(root)                |               |                                            |               |
| [standardized to contain 5% gingerol]               |               |                                            |               |

\*Daily Value not established.

**Other Ingredients:** Cellulose (vegetarian capsule), microcrystalline cellulose, vegetable stearate, silicon dioxide.

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**Turmeric** (*Curcuma longa*) has been used in traditional Ayurvedic medicine for centuries for inflammatory conditions due to the presence of the bioactive curcuminoids, curcumin, desmethoxycurcumin, and bisdemethoxycurcumin.<sup>6</sup> These bioactive constituents possess anti-inflammatory and antioxidant properties that have been shown to accelerate the tissue repair process and shorten the inflammatory phase by inhibiting expression of TNF- $\alpha$ , IL-1, nuclear factor (NF)- $\kappa$ B, and kinase activity, and by inducing apoptosis of pro-inflammatory cells.<sup>7</sup> A systematic review and meta-analysis demonstrated that curcumin supplementation significantly reduced biomarkers of inflammation and oxidative stress, including IL-6, high-sensitivity C-reactive protein (hs-CRP), and malondialdehyde.<sup>8</sup>

Curcumin exhibited chondroprotective effects in animal models and in vitro studies using chondrocytes, and it alleviated pain and cartilage degeneration in rats by suppressing the expression of IL-1B, IL-6, and metalloproteases.<sup>9</sup> Results from randomized human clinical trials show that curcumin acts as an analgesic agent for helping to alleviate symptoms of joint arthritis and manage RA, as evidenced by significant improvements in various inflammatory biomarkers and arthritis questionnaire scores (i.e., Western Ontario and McMaster Universities Osteoarthritis Index [WOMAC], Pruritus Visual Analogue [PVAS], Disease Activity Score-28 [DAS28]) compared to a placebo.<sup>6,10</sup> Curcumin has also been shown to have beneficial effects in intestinal inflammatory conditions, such as necrotizing enterocolitis and inflammatory bowel diseases through its antimicrobial properties, effects on the microbiome, inhibition of pro-inflammatory signal transduction, alterations to immune cell maturation and differentiation, and changes in cytokine profiles within the gastrointestinal tract.<sup>11</sup>

**Boswellia** (*Boswellia serrata*) is also known as Indian frankincense and contains boswellic acids used in Ayurvedic medicine for rheumatism, and it is also used in contemporary medicine to support inflammatory conditions, such as arthritis.<sup>12</sup> The  $\beta$ -boswellic acids in *Boswellia serrata* extract possess anti-inflammatory properties that have been shown to attenuate inflammatory mediators and oxidative stress in collagen-induced arthritis and OA.<sup>13,14</sup> In vitro and in vivo animal models of degenerative OA revealed 20 mcg/mL of Boswellin<sup>®</sup> decreased 5-lipoxygenase activity and 200 mg significantly decreased OA severity and metalloproteinases.<sup>13</sup> A pilot randomized controlled trial found that oral Boswellin<sup>®</sup> supplementation for 120 days significantly reduced hs-CRP levels and improved pain and stiffness compared to a placebo in patients with knee OA.<sup>15</sup>

**Ginger** (*Zingiber officinale*) extract contains the bioactive gingerol that has been used for centuries for its antioxidative, antiproliferative, and anti-inflammatory activities.<sup>16</sup> In human chondrocytes, it was shown to suppress IL-1B-induced expression of TNF- $\alpha$ , IL-6, and IL-8 by inhibiting inflammatory mitogen-activated protein kinase signaling pathways.<sup>9</sup> In rat models of liver cancer, standardized ginger extract counteracted oxidative stress and inflammatory damage, restored levels of superoxide dismutase, catalase, and glutathione, and prevented an increase in cyclooxygenase (COX)-2 and NF- $\kappa$ B in the liver.<sup>17</sup>

**Quercetin, Rutin, Resveratrol, and Rosemary** are polyphenols that have all been shown to possess anti-inflammatory activity in human and animal studies. In humans and human fibroblast-like synoviocytes with RA, resveratrol supplementation suppressed several pro-inflammatory markers, including NF- $\kappa$ B, COX-2, prostaglandin E2 (PGE2), mitogen-activated protein kinase, and reactive oxygen species (ROS), suggesting that it has an anti-RA effect.<sup>18</sup> In human chondrocytes and a rat model of OA, quercetin reduced ROS levels, suppressed expression of inducible nitric oxide synthase, COX-2, PGE2, and nitric oxide, and inhibited inflammatory signaling pathways (e.g., NF- $\kappa$ B).<sup>9</sup> The major phenolic compound in rosemary is carnosic acid, which has antioxidative and anti-inflammatory properties.<sup>19</sup> In vitro and in vivo studies of RA showed that carnosic acid significantly downregulated pro-inflammatory cytokine expression, inhibited osteoclastogenesis and bone resorption, and suppressed 5-lipoxygenase and PGE2, suggesting it may be beneficial for individuals with RA.<sup>20,21</sup>

**Recommended Use:** Take 2 capsules per day between meals or as directed by your health-care practitioner. For best results, this product should be taken on an empty stomach, approximately 1 hour before meals or several hours after.

**Warning:** Not recommended for use by pregnant or lactating women.

For a list of references cited in this document, please visit:

<https://www.designsforhealth.com/api/library-assets/literature-reference---inflammation-tech-sheet-references>

Dosing recommendations are given for typical use based on an average 150 pound healthy adult. Healthcare practitioners are encouraged to use clinical judgement with case-specific dosing based on intended goals, subject body weight, medical history, and concomitant medication and supplement usage.

Veri-te<sup>™</sup> is a trademark of Evolva or its affiliates in the US and other countries.  
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\*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.

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