

## Serrapeptase 60,000 SU

### TECHNICAL SUMMARY

Serrapeptase (serratiopeptidase) is a protein-digesting enzyme isolated from the friendly bacterium *Serratia marcescens*.<sup>\*</sup> Studies indicate that serrapeptase is absorbed intact from the digestive tract and that it acts systemically to support healthy immune system functions and promote the body's normal healing processes.<sup>\*</sup> Some evidence suggests that serrapeptase may support respiratory health by helping to maintain normal mucus secretions.<sup>\*</sup>

**Enzyme Composition:** This product is formulated to deliver the enzymatic activity of 60,000 serratiopeptidase units per capsule. The *Serratia* protease enzyme has a molecular weight of 45,000-60,000 and is a metalloprotease containing a zinc atom, which is important for its proteolytic activity. The enzyme was characterized to be free of any sulphur-containing amino acids like cysteine and methionine. The enzyme showed maximal activity at pH 9.0 and at a temperature of 40 °C. The enzyme is completely inactivated by heating at 55 °C for 15 minutes.

**Allergen and Additive Disclosure:** Not manufactured with wheat, gluten, soy, milk, egg, fish, shellfish, or tree nut ingredients. Produced in a GMP facility that processes other ingredients containing these allergens.

**Delivery Form:** Vegetable capsules

### ROLE AS NUTRIENT/FUNCTION

Serrapeptase is a proteolytic enzyme that is part of the trypsin family. Serrapeptase may be used for protein digestion within the digestive tract or as a systemic protease to modulate the immune system's response to normal biological stress by promoting the breakdown of accumulated of intercellular fluids, by dissolving unwanted tissue, and by temporarily inhibiting the release of pain-related mediators. It also promotes the breakdown of fibrin. <sup>\*</sup>

### NATUROKINETICS®

**Liberation:** The disintegration of the vegetable capsule using a USP testing method of disintegration occurs between zero and 60 minutes.

**Absorption:** Laboratory experiments have suggested that serrapeptidase is at least partially absorbed intact in the digestive tract and can be detected in its active form in the blood and lymph after oral ingestion in animal models. In these experiments, peak plasma concentration was achieved between 30 minutes and 2 hours after ingestion, and serrapeptidase disappeared within 6 hours. These data need to be confirmed in humans.

**Distribution:** In animal models serrapeptidase was detected in blood and lymph.

**Metabolism:** There are no published data regarding the specific catabolism of serrapeptase. However, enzymes are peptides and serrapeptase is most likely metabolized as such in the body.

**Elimination:** There are no published data regarding the specific mode of elimination of serrapeptase. However, enzymes are peptides, and

## Supplement Facts

Serving Size 1 Veg Capsule

### Amount Per Serving

Serrapeptase (60,000 Serratiopeptidase Units)	33 mg**
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\*\* Daily Value not established.

Other ingredients: Rice Bran, Microcrystalline Cellulose and Hypromellose (cellulose capsule).

- **Healthy Immune Function\***
- **Promotes Respiratory Health\***

**SUGGESTED USAGE:** Take 1 capsule daily on an empty stomach with 8 oz. of water. Continuous use of this product for more than 30 days is not recommended except under the supervision of a physician.

serrapeptase catabolites are most likely eliminated by the body the same way as other peptides.

### CLINICAL VALIDATION

- In a meta-analysis of five clinical studies evaluating the clinical effect of serrapeptidase on discomfort after 3<sup>rd</sup> molar extraction, authors concluded that serrapeptidase at the daily doses of 15 to 60 mg in two to three divided doses, supports comfort in the immediate post-surgical period.<sup>\*</sup>

### SAFETY INFORMATION

**Tolerability:** Supplementation with proteolytic enzymes from *Aspergillus* is well tolerated when used up to 100 mg/d; however, some rare cases of skin rashes, muscle aches, joint pains, mild GI discomfort, and pneumonitis have been reported.

**Caution:** Not for use during pregnancy or while breastfeeding. Caution and physician's supervision should be exercised when taken with anti-coagulants or in individuals prone to excessive bleeding. Discontinue 2 weeks prior to a scheduled surgical procedure.

### INTERACTIONS

**Drug Interactions:** Taking Serrapeptase with drugs that have antiplatelet or anticoagulant effects might increase the risk of bruising and bleeding. Some of these drugs include aspirin, clopidogrel (Plavix®), NSAIDs, and others. The use of Serrapeptase may affect the absorption and tissue distribution of antibiotics when taken together.

**Supplement Interactions:** Taking Serrapeptase along with other supplements that might have antiplatelet or anticoagulant effects may increase the risk of bruising and bleeding. Some of the supplements include dong quai, clove, red sage, garlic, ginger, ginkgo, fish oil, turmeric, vitamin E, vitamin K, willow bark, and others.

**Interaction with Lab Tests:** Prothrombin time and INR are recommended to be monitored closely in patients taking Serrapeptase and warfarin.



Dietary Supplement Information  
for Physicians with Naturokinetics®  
**PRODUCT CODE: P2973**  
**CATEGORY: IMMUNE SUPPORT\***

**STORAGE**

Store in cool, dry, and dark environment in original sealed container.  
Protect from extended exposure to moisture, heat, and direct light.

\*These statements have not been evaluated by the FDA. This product is not intended to diagnose, treat, cure, or prevent any disease.