

Biofilm Neutralizer*

with EDTA

Bacteria often grow within biofilm, a slimy coating that adheres to living tissues. Biofilm is a thick and sticky substance comprising proteins, polysaccharides and other biomaterials along with divalent cations. This self-made matrix surrounds and shields the microbes from exposure to immune cells and antimicrobial molecules.* Biofilm complexes are notoriously difficult to disrupt.*

Biofilm Neutralizer* (with EDTA) comprises two orally-available enzymes, trypsin and serrapeptidase, along with alpha-lipoic acid and EDTA (ethylenediaminetetraacetic acid), in a delayed-release capsule (DRCaps®). This mixture is designed to disrupt the bonds that hold biofilm together.*



#78290
60 delayed-release
vegetarian capsules

Key Features

- May help reduce biofilm adhesion, viscosity, and stability.*
- May increase the penetration of antimicrobial molecules into biofilm complexes.*
- Improves the oxidative stress associated with biofilm formation.*



800.545.9960
info@allergyresearchgroup.com
www.allergyresearchgroup.com



Serrapeptidase (serratiopeptidase) is a proteolytic enzyme produced by *Serratia*, a microbe that lives in the digestive tract of various species.* Originally isolated from the silk worm, serrapeptidase allows the emerging moth to dissolve its cocoon.* Purified serrapeptidase has been shown to break down biofilm-associated proteins without harming human tissues.* Serrapeptidase is orally available, and it has systemic fibrinolytic effects.*

Trypsin is a proteolytic enzyme made by the pancreas.* It digests a wide range of substrates including bacterial proteins.* Trypsin has been shown to reduce the viscosity and permeability of the biofilm matrix, and to loosen the attachment of biofilm to living tissues.* Additionally, trypsin removes bacterial surface proteins.* Supplemental trypsin is orally available, with the active enzyme appearing in the bloodstream shortly after ingestion.*

Alpha-lipoic acid (ALA) is a potent antioxidant found in plants and animals.* Low antioxidant capacity leads to oxidative stress, which triggers microorganisms to shift to a biofilm-producing state.* In clinical trials, ALA has been shown to improve total antioxidant capacity by increasing glutathione, the master antioxidant within cells.* Adequate glutathione levels are associated with healthy immune function.* Additionally, both ALA and glutathione have direct biofilm-disrupting effects.*

EDTA Calcium Disodium Salt: EDTA (ethylenediaminetetraacetic acid) is a chelator that binds divalent cations.* Oral EDTA formulations are sometimes used to remove heavy metals, such as lead, from the body.* EDTA loosens the bonds between calcium and alginate, a polysaccharide that strengthens the biofilm matrix.* The addition of EDTA enhances the penetration of antimicrobial molecules into biofilm complexes.* The calcium disodium form of EDTA is preferred because it protects serum calcium levels.*

References

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Supplement Facts

Serving Size	1 Capsule
Servings Per Container	60
Amount Per Serving	% Daily Value*
Calcium (from 100 mg of EDTA Calcium Disodium salt)	6 mg <1%
Sodium (from 100 mg of EDTA Calcium Disodium salt)	9 mg <1%
Alpha Lipoic Acid	150 mg †
Trypsin 1:150 Powder (containing at least 15,000 units of protease)	50 mg †
Serrapeptidase 70,000 SPU	35 mg †

† Daily Value not established.

* Percent Daily Value are based on a 2,000 calorie diet.

Other ingredients: Hydroxypropyl methylcellulose, water, gellan gum, microcrystalline cellulose, stearic acid, silicon dioxide.

Suggested Use: As a dietary supplement, 1 capsule one or two times daily between meals, or as directed by a healthcare practitioner.

Caution: EDTA is known to deplete minerals, so repletion is suggested. Higher doses or long-term use require the guidance of a qualified healthcare practitioner with ongoing monitoring of liver and kidney function.

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