

# ENZYME DEFENSE<sup>TM</sup> PRO

# for IMMUNE SUPPORT\*



# SUPPLEMENT FACTS

Vitamin D3 (as Cholecalciferol)	25 mcg (1,000 ll
Calcium (from Coral Calcium)	23 mg
Magnesium (from Coral Calcium)	0.1 mg
Protease Thera-blend™	350,000 HUT
Catalase	100 Baker
Nattokinase blend w/ NSK-SD®	800 FU
Serrapeptase	50,000 SPU
Mucolase™	16 mg
L-lysine	10 mg

#### **OTHER INGREDIENTS:**

100% Vegetarian Capsule (cellulose, water)

#### **CONTAINS NO:**

egg, dairy, preservatives, salt, sucrose, soy, wheat, yeast, nuts, corn, gluten, casein, potato, rice, artificial colors or flavors.

#### **RECOMMENDED DOSAGE:**

Take 1 capsule per day on an empty stomach (1/2 hour before or 2 hours after a meal). More may be taken as recommended by a healthcare professional.

# With Vitamin D3

# Cold and flu season is estimated to result in over 30 million outpatient doctor visits each year (According to the CDC)<sup>1</sup>

Our immune system does an extraordinary job of defending us against harmful invader microorganisms and the toxins produced by them. However, with the environmental stress of everyday life from chemical, physical, and psychological stressors, the immune system's ability to defend us can be reduced.

It's critical to maintain a strong balanced immune system to stay healthy year-round and feel your best. According to the CDC, cold and flu season is estimated to result in over 30 million outpatient doctor visits each year.<sup>1</sup> Supporting the immune system with a healthy diet, lifestyle, and supportive supplementation can help strengthen the body's innate defense systems to combat invaders throughout all four seasons.

# **IMMUNE HEALTH**

The body relies on our complex immune system to help maintain homeostasis, utilizing energy, proteins, vitamins, and minerals to stay balanced. Science has made the connection that increased levels of vitamin D leads to less infection and therefore greater immunity.\* Studies have suggested that vitamin D-deficient individuals more frequently experience respiratory problems than those with adequate plasma vitamin D levels.<sup>2</sup> Due to vitamin D only being obtained from the diet or synthesized in the skin, it is suggested that more than 40% of the US population is deficient.<sup>3</sup>

Our skin is our first line of defense against microorganisms and vitamin D plays an integral role in the body's antimicrobial response. Vitamin D induces antimicrobial peptide gene expression.\* These "host defense peptides" (cathelicidins and beta defensins) are expressed in neutrophils and epithelia and provide protection against a wide range of invading organisms via membrane disruption.<sup>4</sup> In addition, vitamin D inhibits B cell proliferation, slows differentiation and immunoglobulin secretion and suppresses T cell proliferation.<sup>\*2</sup> The body also acquires the essential amino acid lysine from diet and supplementation. Lysine is important in cellular interactions, maintaining antibody responses and cell-mediated immune responses, and is necessary for the expression of beta-defensins.<sup>\*5</sup>

Catalase, an antioxidant enzyme, is one of the body's natural defenses against free radicals and oxidative stress. Catalase is responsible for catalyzing the breakdown of hydrogen peroxide, a ROS molecule produced by oxidative cellular metabolism and by macrophages fighting off invading microorganisms.<sup>6</sup> Endogenous and exogenous free radical scavengers work together to enhance immune defense by protecting cells from



# **3** BENEFITS IN 1







free radical damage and maintaining the redox balance of the immune system.\*7

# PROTEOLYTIC ENZYME ROLE IN IMMUNE FUNCTION\*

Besides playing an important role in digestion, enzymes also support the immune system. Proteolytic enzymes are responsible for proteolysis and support overall health when taken on an empty stomach.\* The foreign species (antigens) recognized by the body are usually proteinaceous or polypeptide in nature and, in some cases, are small molecules attached to carrier proteins eliciting an immune response. Oral systemic enzymes are absorbed as free proteases active in fluids and tissues or bind to alpha-2-macroglobulin for protection from degradation, allowing the enzyme to circulate in the blood.\*<sup>8.9</sup> While in the blood, proteases target foreign proteins and dead or damaged proteins generated from immune responses thereby helping to clean the blood of cellular debris.\*

Enzyme Defense<sup>™</sup> Pro contains four types of proteolytic enzymes: Protease, Mucolase<sup>™</sup>, Serrapeptase and Nattokinase. In addition to generalized protein digestion, Mucolase and Serrapeptase also exhibit mucolytic properties, reducing the thickness and viscosity of mucus thus enhancing respiratory function and promoting easy breathing.<sup>\*10</sup> The unique formula blend, in combination with the bacterial source of Serrapeptase, allows this enzyme to remain active even after being subjected to the acidic environment of the stomach therefore delivering enzymes to the intestines for absorption. Nattokinase is a powerful fibrinolyic enzyme, which dissolves excess fibrin to promote cardiovascular health.<sup>\*11</sup> Degrading proteins throughout the body improves blood flow and the body's natural response to stress.\*

### ENZYME DEFENSE™ PRO ACHIEVING OPTIMAL HEALTH

In optimal health, the body is shielded with a robust immune system that is highly functioning and balanced to ward off foreign species. Minimizing stressors in conjunction with supplying the body with tools to strengthen this defense mechanism maintains a balanced immune system throughout the year. Enzyme Defense<sup>™</sup> Pro provides Vitamin D3 and L-lysine along with antioxidant enzymes and four powerful proteases to cleanse the body and provide natural support for maintaining healthy immune function.\*

# REFERENCES

- <sup>1</sup> Estimated Influenza Illnesses, Medical visits, Hospitalizations, and Deaths in the United States 2018–2019 influenza season. (2020, January 8). Retrieved March 19, 2020, from https://www.cdc.gov/flu/about/burden/2018-2019.html
- <sup>2</sup> Aranow C. (2011). *Journal of investigative medicine*. *59*(6), 881–886.
- <sup>3</sup> Parva NR, et al. (2018). Cureus. 10(6),e2741.
- <sup>4</sup> Kościuczuk EM, et al. (2012). *Mol Biol Rep.* 39(12),10957-70.
- <sup>5</sup> Jäger K, et al. (2010). Ann Anat. 192(2),65-9.
- <sup>6</sup> Nandi A, et al. (2019). Oxid Med Cell Longev. 2019, 1-19.
- <sup>7</sup> Pham-Huy, L. A., et al. (2008). International journal of biomedical science : IJBS, 4(2), 89–96.
- <sup>8</sup> Lorkowski G. (2012). Int J Physiol Pathophysiol Pharmacol. 4(1),10-27.
- <sup>9</sup> Nakamura S, et al.(2003). *Respirology*. 8(3),316-20.
- <sup>10</sup> Role of Serratiopeptidase in Enzyme Therapy. (2017). International Journal of Science and Research (IJSR), 6(7), 758–759.
- <sup>11</sup> Jensen, G. S., et al. (2016). Integrated blood pressure control, 9, 95–104.

\*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.