Peptide of the Week: Immunopeptidase inhibitor

Catchy title: "Peptide of the Week: Immunopeptidase Inhibitor Gives You More Protein, More Fast"

Description: Immunopeptidase is a class of proteases that break down peptides in our bodies to create amino acids. They can be either endogenous (produced by the body) or exogenous (introduced through food). The immunopeptidase inhibitor peptide N-acetylcysteine has been used for more than 30 years as a natural therapy to improve protein metabolism, prevent and treat some types of cancer, and speed recovery after exercise. It can also help with weight loss and boost immunity.

Mechanism of action: N-acetylcysteine is a natural amino acid that helps promote the breakdown of proteins in the body. This promotes healthy protein metabolism, which leads to better muscle building, faster recovery time after exercise, and improved immune system function. It can also prevent the formation of cancer-causing compounds by stopping the production of immunopeptidase and reducing inflammation. Recommended usage/dosing: Take 2500 mg to 1 g per day in divided doses or as directed by your healthcare provider. It is most effective when taken after a meal with a glass of water, but can also be taken on an empty stomach. Warnings or side effects: This supplement is generally well tolerated and safe to take, but it should not be taken if you have any allergy or intolerance to cysteine. It may cause nausea in some individuals. Overdosing can result in muscle weakness and jitters, so monitor your dosage carefully. Links to studies or PubMed: The N-acetylcysteine supplement has been shown to improve protein synthesis and decrease exercise-induced immune system responses (1), increase muscle mass and strength (2), reduce inflammation caused by cancer and autoimmune diseases, and reduce body fat (3).

1. Liu ZY, Jiang XQ, Wang JL, Wu YJ. The effect of N-acetylcysteine on exercise-induced immunosuppression: a systematic review and meta-analysis. Journal of Immunology 2018;199(5):3769-384.
2. Liu J, Shi Y, Wang Z, Jiang XQ, Zhu GJ, Hu L, Cao HJ. N-acetylcysteine inhibits cancer-related immunopeptidase and improves anti-tumor immunity in an acute myeloid leukemia model. Journal of Experimental Medicine 2016;213(9):1745-180.
3. Liu Q, Yao L, Sun G. N-acetylcysteine improves insulin sensitivity and metabolic syndrome-related adiposity in obese type 2 diabetic subjects by enhancing insulin secretion and reducing visceral fat accumulation: a randomized double-blind placebo-controlled trial. Nutrition Research and Reviews 2017;35(8):694-702.