

纳豆激酶

分子量:27.7KDa

描述

纳豆激酶,又称枯草芽孢杆菌蛋白酶,是纳豆发酵过程中产生的一种丝氨酸蛋白酶,由275个氨基酸残基组成。主要是帮助分解纤维蛋白,而纤维蛋白正是血栓的主要成分,从而有助于维护心血管健康。

规格

纳豆激酶 20000FU/g~40000FU/g
(高酶活,酶活稳定,规格可定制)

功能

- 1.溶栓抗凝:**具有显著的纤维蛋白降解活性,并激活体内的纤溶酶原转化为纤溶酶,以及增加组织型纤溶酶原激活剂(t-PA)的表达,因而可用于预防和辅助改善血栓相关疾病。
- 2.显著改善血液流变学指标:**能够降低全血粘度并抑制红细胞聚集,对于改善微循环、预防缺血性卒中具有重要意义。
- 3.降血脂:**抑制肠道内胆固醇的吸收,并促进肝脏低密度脂蛋白受体(LDLR)的表达,从而加速血液中低密度脂蛋白胆固醇(LDL-C)的清除;抑制胆固醇合成途径中的限速酶羟甲基戊二酰辅酶A还原酶(HMG-CoA reductase)的活性,其抑制作用类似于他汀类药物,但副作用更为温和;通过激活过氧化物酶体增殖物激活受体 α (PPAR α)通路,诱导参与脂肪酸摄取、活化及氧化的多种酶基因表达,如肉碱棕榈酰转移酶1(CPT1)和乙酰辅酶A氧化酶,促进脂肪酸的 β -氧化,从而降低血液中的甘油三酯水平。从而,能缓解高脂饮食诱导的非酒精性脂肪肝,抑制肝细胞脂肪变性、炎症及纤维化进程,对高血压、高脂血症等代谢性疾病具有积极作用。
- 4.抗炎:**能够抑制核因子 κ B(NF- κ B)信号通路的激活,减少促炎细胞因子如肿瘤坏死因子- α (TNF- α)、白细胞介素-6(IL-6)和白细胞介素-1 β (IL-1 β)的产生。能够清除体内的活性氧(ROS),提高超氧化物歧化酶(SOD)和谷胱甘肽过氧化物酶(GSH-Px)等抗氧化酶的活性。

优势

- 1.可呈类白色等浅色
- 2.气味口味较淡
- 3.可通过体外溶血栓实验证明其活性。

推荐摄入量:2000FU~6000FU/天

Nattokinase

Molecular Weight: 27.7KDa



Description

Nattokinase, also known as Subtilisin Protease, is a serine protease composed of 275 amino acid residues and produced during *Bacillus subtilis* Natto fermentation. It primarily functions to degrade fibrin, the main structural component of blood clots, thereby effectively supporting and maintaining cardiovascular health.

Specification

Nattokinase 20000FU/g~40000FU/g

(High & Stable enzyme activity, customizable specifications)

Functions

- 1. Thrombolytic and Anticoagulant Effects:** Nattokinase exhibits potent fibrinolytic activity. It promotes the conversion of plasminogen to active plasmin and upregulates the expression of tissue-type plasminogen activator (t-PA) in the body, enabling effective prevention and adjunctive improvement of thrombosis-related disorders.
- 2. Improvement of Hemorheological Parameters:** It reduces whole blood viscosity and inhibits erythrocyte aggregation, which effectively improves microcirculation and delivers significant benefits for the prevention of ischemic stroke.
- 3. Lipid-Regulating and Metabolic-Modulating Functions:** Nattokinase inhibits intestinal cholesterol absorption and upregulates hepatic low-density lipoprotein receptor (LDLR) expression, accelerating the clearance of circulating low-density lipoprotein cholesterol (LDL-C). It suppresses the activity of 3-hydroxy-3-methylglutaryl coenzyme A reductase (HMG-CoA reductase), the rate-limiting enzyme in cholesterol synthesis. Its inhibitory mechanism is comparable to statin drugs yet with far milder side effects. Additionally, it activates the peroxisome proliferator-activated receptor alpha (PPAR α) signaling pathway, inducing the expression of key enzymes involved in fatty acid uptake, activation and oxidation — including carnitine palmitoyltransferase 1 (CPT1) and acyl-CoA oxidase. This facilitates fatty acid β -oxidation and reduces serum triglyceride levels. Collectively, it alleviates high-fat diet-induced non-alcoholic fatty liver disease (NAFLD), inhibits hepatocyte steatosis, inflammation and hepatic fibrosis progression, and exerts positive regulatory effects on metabolic diseases such as hypertension and hyperlipidemia.
- 4. Anti-inflammatory and Antioxidant Properties:** It blocks the activation of the nuclear factor kappa-B (NF- κ B) signaling pathway, thereby reducing the production of pro-inflammatory cytokines, including tumor necrosis factor- α (TNF- α), interleukin-6 (IL-6) and interleukin-1 β (IL-1 β). Moreover, it scavenges intracellular reactive oxygen species (ROS) and enhances the activities of major antioxidant enzymes such as superoxide dismutase (SOD) and glutathione peroxidase (GSH-Px), improving the body's overall antioxidant capacity.

Advantages

1. Presents a light color, typically off-white and other pale shades.
2. Features a mild odor and faint taste with no unpleasant peculiar flavor.
3. Its high thrombolytic activity can be fully verified via in vitro thrombolysis assays.

Recommended Dosage: 2,000 FU ~ 6,000 FU per day