Nattokinase 4000

4,000 FU of Nattokinase per capsule

Available in 60 capsules

Clinical Applications

- Supports cardiovascular health*
- Supports healthy blood flow*
- Supports healthy blood pressure already within the normal range*

Nattokinase 4000 *delivers 4,000 FU of nattokinase, an enzyme known for its fibrinolytic activity that naturally occurs in the fermented soybean food natto. This formula is designed to support healthy circulation and blood flow, while helping maintain healthy blood pressure already within the normal range.**

Discussion

Nattokinase is a serine protease enzyme that is isolated from the traditional Japanese food natto, which is made from boiled soybeans that are fermented with *Bacillus subtilis*. The Japanese have long believed that natto supports healthy blood flow. In a series of in vitro experiments in the 1980s, researchers discovered that nattokinase is the active component in natto that can affect the whitish, filamentous protein known as fibrin, which is involved in blood clot formation.[1,2] Fibrin forms in blood after a trauma or injury to protect the body from excessive blood loss, and strands of fibrin can accumulate along the walls of blood vessels, affecting blood flow.*[3,4]

Nattokinase Mechanism of Action

Nattokinase is a proteolytic enzyme with direct and indirect fibrinolytic activity that may support healthy fibrin turnover and blood flow. It directly cleaves cross-linked fibrin, the structural protein that forms the framework of blood clots. This direct activity differs from tissue-type plasminogen activator (tPA), which promotes fibrinolysis indirectly by converting plasminogen to plasmin.*[1,3,5]

Nattokinase may also enhance the body's fibrinolytic system by degrading plasminogen activator inhibitor-1 (PAI-1), an endogenous inhibitor of tPA.[6] By reducing PAI-1 activity, nattokinase may increase tPA activity and thereby support the body's natural fibrinolytic capacity.*[1,3,7]

Additional research suggests nattokinase may influence platelet aggregation and vascular inflammatory pathways, although these mechanisms and their clinical relevance require further investigation in humans.*[1,8,9]

Collectively, these complementary mechanisms provide a basis for the role of nattokinase in supporting healthy fibrinolytic activity and circulation.*

Nattokinase Research

Fibrinolytic Activity

In an open-label, self-controlled trial, subjects (N = 45) were divided into 3 groups: healthy adults, individuals with cardiovascular disease or risk factors, and patients undergoing dialysis. Participants received 4,000 FU (fibrinolytic units) of nattokinase daily for 8 weeks. Across the study population, nattokinase supplementation was associated with significant time-dependent reductions in several coagulation-related biomarkers, including fibrinogen and clotting factors VII and VIII. While promising, these endpoints need to be evaluated with robust randomized, placebo-controlled studies to make definitive conclusions.*[10]

In another randomized, double-blind crossover study, healthy subjects (N = 12) received a single 2,000-FU dose of nattokinase or placebo, with blood samples collected over 8 hours to assess acute coagulation and fibrinolysis parameters. Nattokinase significantly increased biomarkers of fibrin degradation and altered several coagulation parameters, with all measured changes remaining within reference ranges.*[11]

Blood Pressure

In a randomized, double-blind study designed to examine the effects of nattokinase supplementation on blood pressure, adults (N = 86) aged 20 to 80 years with untreated systolic blood pressure (SBP) of 130-159 mm Hg received either 2,000 FU of nattokinase or placebo daily for 8 weeks. Nattokinase supplementation was associated with significantly greater reductions in SBP and diastolic blood pressure (DBP) compared with placebo and significantly reduced plasma renin activity.*[12]

In another randomized, double-blind, placebo-controlled study assessing the effect of nattokinase on blood pressure, adults (N = 79) with SBP ≥ 130 mm Hg or DBP ≥ 90 mm Hg received either 2,000 FU of nattokinase or placebo daily for 8 weeks. Nattokinase supplementation was associated with reductions in both SBP and DBP, with a greater reduction observed among males. Exploratory analyses also found a decrease in von Willebrand factor (vWF), a protein involved in platelet adhesion and blood clotting, among females and an increase in plasma renin activity among participants with low baseline renin activity.*[13]

Collectively, these findings demonstrate that nattokinase may enhance fibrinolytic activity and modulate multiple components of the human coagulation system. Supplementation may also support healthy blood pressure already within the normal range and influence select vascular and renin-related biomarkers.*[11-13]

Nattokinase 4000 provides 4,000 FU of nattokinase per capsule. This formula is designed to support healthy circulation and blood flow and help maintain healthy blood pressure already within the normal range.*

*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.

Nattokinase 4000 Supplement Facts

Serving Size: 1 Capsule

	Amount Per Serving	%Daily Value
Calcium (as dicalcium phosphate)	57 mg	4%
Nattokinase	200 mg (4,000 FU†)	**

Other Ingredients: Capsule (hypromellose and water), ascorbyl palmitate, and silica.
Contains: Soy.

DIRECTIONS: Take 1 capsule daily, or use as directed by your healthcare professional.

Consult your healthcare professional before use. Individuals taking medication should discuss potential interactions with their healthcare professional. Do not use if tamper seal is damaged.

CAUTIONS: Consult your healthcare professional before taking this product if you have a bleeding disorder or are taking any drug that affects blood coagulation or blood pressure, such as heparin, warfarin (Coumadin), diuretics, ACE inhibitors, or beta-blockers.

STORAGE: Keep closed in a cool, dry place out of reach of children.

FORMULATED TO EXCLUDE: Wheat, gluten, yeast, animal and dairy products, fish, shellfish, peanuts, tree nuts, egg, sesame, ingredients derived from genetically modified organisms (GMOs), artificial colors, and artificial sweeteners.

†Fibrinolytic Units

References

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All XYMOGEN® Formulas Meet or Exceed cGMP Quality Standards.

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