

Nattokinase NSK-SD[®]

Circulatory System Support*

Nattokinase is a profibrinolytic serine protease originally extracted and purified from natto, a traditional fermented soybean food popular in Japan. The fermentation process includes incubating boiled soybeans with *Bacillus subtilis* natto. Current research suggests that nattokinase may support healthy coagulation of blood within normal levels, and may be useful in the maintenance and enhancement of normal healthy endogenous fibrinolysis.* Maintenance of optimum functioning of the body's fibrinolytic/thrombolytic mechanisms may benefit the function of many bodily systems, in particular the cardiovascular system and the brain.*

Key Features

- Pure NSK-SD[®] Nattokinase from non-GMO soybeans
- Provides nutritional support for the maintenance and support of normal healthy endogenous fibrinolysis, to support normal coagulation*
- Provides nutritional support for healthy blood pressure within normal levels*



Nattokinase NSK-SD®

While investigating natural food sources for fibrinolytic activity, the University of Chicago researcher Dr. Hiroyuki Sumi discovered a potent fibrinolytic enzyme in a popular Japanese fermented food. His research group tested 173 foods including the traditional Japanese food called natto, made from boiled and fermented soybeans. Natto has been part of the Japanese diet for centuries, and the Japanese believed that it enhances cardiovascular health.* Dr. Sumi's research group was surprised to find that this enzyme, nattokinase, has very potent fibrinolytic activity, stronger than that of plasmin or elastase, in vivo. Subsequent research has shown that nattokinase is absorbed from the intestinal tract and degrades plasma fibrinogen. As an endogenous plasminogen activator, NK's thrombolytic activity can be maintained for a relatively long time.

In summary, research shows that nattokinase can be a valuable part of a cardiovascular health program, as it supports healthy coagulation of blood within normal levels and supports normal fibrinolytic activity.*

Nattokinase NSK-SD® was the first nattokinase introduced into the US market, and it has established standardization and quality levels for all nattokinase, with comprehensive safety studies and proven potency. It is vegetarian, non-irradiated, and free of vitamin K2. NSK-SD® has two Japanese and three U.S. patents, and is recognized by the JHFA (Japan Health and Nutrition Food Authorization) and JNKA (Japan Nattokinase Association) as authentic nattokinase. NSK-SD® is produced from non-genetically modified soybeans using a selected, patented strain of *Bacillus subtilis* natto.

References:

Abe T. Oral urokinase: absorption, mechanisms of fibrinolytic enhancement and clinical effect on cerebral thrombosis. *Folia Haematol Int Mag Klin Morphol Blutforsch* 1986;113:122-36.
Alberts MJ. Hyperacute stroke therapy with tissue plasminogen activator. *Am J Cardiol* 1997;80:29D-34D; discussion 35D-39D.
Baigent C, Collins R, Appleby P, et al. ISIS-2: 10 year survival among patients with suspected acute myocardial infarction in randomised comparison of intravenous streptokinase, oral aspirin, both, or neither. *BMJ* 1998;316:1337-1343.
Chang CT, Fan MH, Kuo FC, et al. Potent fibrinolytic enzyme from a mutant of *Bacillus subtilis* IMR-NK1. *J Agric Food Chem* 2000;48:3210-6.
Fujita M, Hong K, Ito Y, et al. Thrombolytic effect of nattokinase on a chemically induced thrombosis model in rat. *Biol Pharm Bull* 1995;18:1387-91.
Fujita M, Hong K, Ito Y, et al. Transport of nattokinase across the rat intestinal tract. *Biol Pharm Bull* 1995;18:1194-6.
Fujita M, Nomura K, Hong K, et al. Purification and (nattokinase) in the vegetable cheese natto, a popular soybean fermented food in Japan. *Biochem Biophys Res Commun* 1993;197:1340-7.
Grignani G, Zucchella M, Brocchieri A, et al. Current concepts in coronary thrombolysis. *Haematologica* 1994;79:475-82.
Kato T, Yamagata Y, Arai T, et al. Purification of a new extracellular 90-kDa serine proteinase with isoelectric point of 3.9 from *Bacillus subtilis* (natto) and elucidation of its distinct mode of action. *Biosci Biotechnol Biochem* 1992;56:1166-8.
Ouriel K, Kandarpa K, Schuerr DM, et al. Prourokinase versus urokinase for recanalization of peripheral occlusions, safety and efficacy: the PURPOSE trial. *J Vasc Interv Radiol* 1999;10:1083-91.
Sumi H, Hamada H, Nakanishi K, et al. Enhancement of the fibrinolytic activity in plasma by oral administration of nattokinase. *Acta Haematol* 1990;84:139-43.
Sumi H, Hamada H, Tsushima H, et al. A novel fibrinolytic enzyme (nattokinase) in the vegetable cheese Natto; a typical and popular soybean food in the Japanese diet. *Experientia* 1987;43:1110-1.
Urano T, Ihara H, Umemura K, et al. The profibrinolytic enzyme subtilisin NAT purified from *Bacillus subtilis* Cleaves and inactivates plasminogen activator inhibitor type 1. *J Biol Chem* 2001;276:24690-6.
van Gorp EC, Brandjes DP, ten Cate JW. Rational antithrombotic therapy and prophylaxis in elderly, immobile patients. *Drugs Aging* 1998;13:145-57.
Weichert W, Seifried E. [Fibrinolytic agents--who benefits when?]. *Ther Umsch* 1995;52:652-60.

50 mg 90 veggie caps • #75281
50 mg 300 veggie caps • #75291

Supplement Facts

Serving Size	2 Capsules
Servings Per Container	45 or 150
Amount Per Serving	
Nattokinase NSK-SD® (soy) (2000 FU)	100 mg †
† Daily Value not established.	

Other ingredients: Hydroxypropyl methylcellulose, cellulose, L-leucine.

Suggested Use: As a dietary supplement, 2 capsules two times daily initial dose, or as directed by a healthcare practitioner. May be taken with or without food. Take with 8-10 ounces of water. If taken with anticoagulant drugs, use under medical supervision. Contraindicated in any condition associated with bleeding.

100 mg 60 softgels • #75370
100 mg 180 softgels • #75380

Supplement Facts

Serving Size	1 Softgel
Servings Per Container	60 or 180
Amount Per Serving	
Nattokinase NSK-SD® (soy) (2000 FU)	100 mg †
† Daily Value not established.	

Other ingredients: Soybean oil, gelatin, glycerin, glycerin fatty acid ester, soybean lecithin, beeswax.

Suggested Use: As a dietary supplement, 1 softgel two times daily initial dose, or as directed by a healthcare practitioner. May be taken with or without food. Take with 8-10 ounces of water. If taken with anticoagulant drugs, use under medical supervision. Contraindicated in any condition associated with bleeding.

FU indicates activity in fibrinolytic units. Actual potency confirmed by independent testing.

NSK-SD® is a trademark of Japan BioScience Laboratory.