

What Is Nattokinase?

This soybean-derived enzyme has been studied for use in heart-related conditions

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Nattokinase ("Natto") is an enzyme (protein) found in natto and fermented soybeans. Natto is a traditional dish in Japan. The specific fermentation process involves using the bacterium *Bacillus subtilis natto*.

Nattokinase may work in multiple ways. But in general, nattokinase may have heart-related effects by increasing the activities of the following naturally-occurring proteins in your body: tissue plasminogen activator (tPA) and urokinase. Nattokinase may also directly break down fibrin, a structural component (part) of blood clots.

This article discusses what you should know about nattokinase—its potential uses, side effects, and interactions.

Dietary supplements are not regulated like drugs in the United States, meaning the Food and Drug Administration (FDA) does not approve them for safety and effectiveness before products are marketed. When possible, choose a supplement tested by a trusted third party, such as USP, ConsumerLabs, or NSF. However, even if supplements are third-party tested, that doesn't mean they are necessarily safe for all or effective in general. Therefore, it is important to talk to your healthcare provider about any supplements you plan to take and check in about potential interactions with other supplements or medications.

Supplement Facts

- **Active ingredients (s):** Nattokinase
- **Alternative name(s):** Nattokinase, Natto extract, Fermented soybeans
- **Legal status:** Legal in most states (United States)
- **Suggested dose:** May vary based on the dosage form and medical condition
- **Safety considerations:** Limited information in pregnant or breastfeeding parents. Nattokinase may also interact with some prescription medications.

Uses of Nattokinase

Supplement use should be individualized and vetted by a healthcare professional, such as a registered dietitian, pharmacist, or healthcare provider. No supplement is intended to treat, cure, or prevent disease.

Like many natural products, people may use nattokinase for various reasons. But there are several studies assessing nattokinase for the following potential uses.

Blood Pressure, Cholesterol, and Stroke

In a small clinical trial, results suggest that nattokinase may benefit people with high blood pressure. This effect seems to be more pronounced in people assigned male at birth.

But in people assigned female at birth, there was a drop in von Willebrand factor (vWF). vWF is a naturally occurring protein, but too much of it might be linked to a higher risk of stroke. So, less vWF may lower stroke risk.

In another small study, nattokinase combined with standard of care (SOC) may help with stroke rehabilitation. In fact, after 60 days, study participants experienced blood pressure and cholesterol control. Participants also had a better quality of life and improvements in physical activity.

While these results are promising, larger, high-quality clinical trials are still needed.

What Are the Side Effects of Nattokinase?

Like many medications and herbs, side effects are possible with nattokinase.

Common Side Effects

Natto is a traditional Japanese food for thousands of years. There were no side effects with nattokinase in several clinical trials.

Based on this information, side effects from nattokinase seem to be rare.

Severe Side Effects

There were no side effects with nattokinase in multiple clinical trials. But possible serious side effects may include:

- **Serious allergic reaction:** A severe allergic reaction is a possible serious side effect of any medication. Symptoms may include breathing difficulties, itchiness, and rash.
- **Clot relocation:** Nattokinase may work by breaking up a clot. And as this clot is breaking apart, it may relocate and get stuck somewhere else. You may have trouble

breathing if the clot gets stuck in your lungs. If the clot gets stuck in your brain vessels, it may result in a stroke.

- **Excessively low blood pressure:** Since nattokinase may lower your blood pressure, this side effect may become excessive and severe. Symptoms of dangerously low blood pressure may include dizziness and fainting spells.
- **Severe bleeding and bruising:** Nattokinase may weaken your blood by breaking clots. For this reason, there's a chance of severe bleeding and bruising side effects.

If you're having a severe allergic reaction or if any of your symptoms feel life-threatening, call 911 and get medical help right away.

Precautions

Nattokinase may pose risks in the following situations:

- **Severe allergic reaction:** Avoid nattokinase if you have a severe allergic reaction to it or its components (parts or ingredients). You'll also want to avoid natto.
- **Pregnancy and breast-feeding:** There's little information on the effects and safety of nattokinase in pregnant and breast-feeding parents. What's more, there seem to be limited product labels that target these parents. Reach out to your healthcare provider to weigh

the benefits and risks of nattokinase while pregnant or breast-feeding.

- **Children:** There's little information on the effects and safety of nattokinase in children. What's more, most product labels seem to target adults—not children. Discuss the benefits and risks of nattokinase with your child's healthcare provider (pediatrician).
- **Adults over 65:** Older adults did participate in a nattokinase study, such as a small clinical trial in people with high blood pressure. But larger, well-designed studies are necessary to assess better the effects and safety of nattokinase in older adults. Some older adults may be more sensitive to side effects from medications. For this reason, take nattokinase with caution.
- **Blood conditions:** Nattokinase may break up clots and thin out your blood. For this reason, your healthcare provider may recommend against nattokinase if you have certain blood conditions, such as hemophilia (bleeding condition).

Dosage: How Much Nattokinase Should I Take?

Always speak with a healthcare provider before taking a supplement to ensure that the supplement and dosage are appropriate for your individual needs.

While there are some small short-term studies on nattokinase, larger and well-designed studies are necessary. For this reason, there are no guidelines on the appropriate dosage to take nattokinase for any condition.

If you take nattokinase, follow your healthcare provider's suggestions and product label instructions.

What Happens If I Take Too Much Nattokinase?

Healthy volunteers took 10 milligrams (mg) of nattokinase for each kilogram (kg) of body weight every day for 28 days. And these volunteers didn't experience any side effects. But there is limited information about nattokinase toxicity and overdoses in humans. So, further study is necessary. But overdoses with nattokinase might be similar to its potentially severe side effects—but exaggerated or excessive.

If you think you're experiencing an overdose or life-threatening symptoms, get medical help immediately.

Interactions

Use caution when taking nattokinase with the following:

- **Blood pressure medications:** Nattokinase may lower your blood pressure. For this reason, nattokinase may

have additive effects with your antihypertensive medications, such as Microzide (hydrochlorothiazide).

- **Blood thinners:** Nattokinase may break up clots and thin out your blood. For this reason, nattokinase may worsen bleeding and bruising side effects of blood thinners, such as Coumadin (warfarin).

It is essential to carefully read a supplement's ingredient list and nutrition facts panel to know which ingredients and how much of each ingredient is included. Please review this supplement label with your healthcare provider to discuss potential interactions with foods, other supplements, and medications.

How to Store Nattokinase

Since storage instructions may vary for different natural products, carefully read the directions and packaging label on the container. But in general, keep your medications tightly closed and out of the reach of children and pets, ideally locked in a cabinet or closet. Try to store your medicines in a cool and dry place.

Discard after one year or as indicated on the packaging. Avoid putting unused and expired drugs down the drain or in the toilet. Visit the FDA's website to know where and how to discard all unused and expired medicines. You can also find disposal boxes in your area.

Ask your pharmacist or healthcare provider if you have any questions about the best ways to dispose of your medications or supplements.

Similar Supplements

Nattokinase may have heart-related effects like blood pressure, cholesterol, and stroke. In general, nattokinase may work in multiple ways—like increasing the activities of naturally-occurring proteins, such as tissue plasminogen activator (tPA) and urokinase. Nattokinase may also directly break down fibrin, a structural component (part) of blood clots.

A potentially similar supplement is ginkgo. Similar to nattokinase, some ginkgo product labels may target people with heart-related conditions. And while research doesn't support ginkgo's use in lowering blood pressure or stroke risk, ginkgo may cause blood-thinning side effects.

Don't take ginkgo with nattokinase until you first talk with your healthcare provider. They can help prevent possible interactions and side effects. They can also ensure that you're giving these supplements a fair trial at appropriate doses.

FREQUENTLY ASKED QUESTIONS

- What is the most common dosage form of nattokinase?

Nattokinase is available in many dosage forms—with capsules likely the most common.

- **Is nattokinase available from manufacturers in the United States (U.S.)?**

Yes. There are nattokinase products made by manufacturers in the United States.

- **Does natto have any nutritional benefits?**

Yes, natto has several nutrients, which may include calcium, copper, iron, magnesium, potassium, vitamin C, and zinc.

- **How do I take nattokinase safely?**

To take natural medications—like nattokinase—safely, inform your healthcare providers and pharmacists about any medication changes. This includes over-the-counter (OTC), herbal, natural medications, and supplements.

They can help prevent possible interactions and side effects. They can also ensure that you're giving nattokinase a good trial at appropriate doses.

Sources of Nattokinase & What to Look For

There are several different sources of nattokinase.

Food Sources of Nattokinase

Nattokinase is an enzyme (protein) that's found in natto, which is fermented soybeans. Natto is a traditional Japanese food. The fermentation process involves the bacterium *Bacillus subtilis natto*.

Nattokinase Supplements

Nattokinase is available in a variety of forms, including capsules and tablets. If you have difficulties swallowing pills, nattokinase might also be available in other dosage forms, such as powder. There may also be vegan and vegetarian options.

The specific product you choose will depend on your preference and what you hope to get in terms of effects. Each product may work a bit differently depending on the form. So, it's important to follow your healthcare provider's recommendations or label directions.

Summary

Nattokinase is an enzyme (protein) that's found in natto, which is fermented soybeans. Natto is a traditional Japanese food, and the fermentation process involves the bacterium *Bacillus subtilis natto*.

Nattokinase may have potential uses in heart-related conditions, such as high blood pressure, high cholesterol levels, and stroke. And in reference to one study, there were no side effects with nattokinase in several clinical trials.

But side effects and medication interactions are possible based on how nattokinase might work. More high-quality research with larger and well-designed clinical trials is necessary to assess nattokinase effectiveness and safety. Before taking nattokinase, reach out to your pharmacist or healthcare provider to help you safely achieve your health goals.

9 Sources

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