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ALL ABOUT SUPPLEMENTS

Serrapeptase: The natural anti-inflammatory



For the millions of Americans who take anti-inflammatory medications to relieve pain and to promote cardiovascular health,¹ there is a supplement that shows great promise. The name of this supplement is Serrapeptase and doctors in Europe have been prescribing it to treat everything from pain to atherosclerotic plaques.

Serrapeptase, technically called Serrato Peptidase, is a proteolytic enzyme, which means that it chops up or digests protein. It is produced by bacteria in the gut of silkworms and is used to digest their cocoons. When this enzyme is isolated and coated in the form of a tablet, it has been shown to act as an anti-inflammatory and a pain-blocker, much like aspirin, ibuprofen and other nonsteroidal anti-inflammatory drugs (NSAIDs). What's more, preliminary research indicates that Serrapeptase may even help inhibit plaque build-up in arteries, thereby preventing atherosclerosis (hardening of the arteries) and a resulting heart attack or stroke. Therefore, much like aspirin, this naturally derived enzyme may work to prevent inflammation, pain, heart attack and stroke. Unlike aspirin and other over-the-counter (OTC) NSAIDs, Serrapeptase has not been shown to cause ulcers and stomach bleeding.

Serrapeptase is thought to work in three ways:

1. It may reduce inflammation by thinning the fluids formed from injury, and facilitating the fluid's drainage. This in turn, also speeds tissue repair.
2. It may help alleviate pain by inhibiting the release of pain-inducing amines called bradykinin.
3. It may enhance cardiovascular health by breaking down the protein by-products of blood coagulation called fibrin. Conveniently, Serrapeptase is able to dissolve the fibrin and other dead or damaged tissue without harming living tissue. This could enable the dissolution of atherosclerotic plaques without causing any harm to the inside of the arteries.

Serrapeptase has been used in Europe and Asia for over 25 years. Because the enzyme digests or dissolves all nonliving tissue, including blood clots, cysts and arterial plaque, it is used to treat a variety of conditions, including sprains and torn ligaments, postoperative swelling, venous thrombosis (clots in the legs), ear, nose and throat infections and atherosclerosis.

Abroad, Serrapeptase is marketed under a variety of names including, Danzen™, Aniflazym™, and SerraZyme™. In the United States, it has been used and marketed as Serrapeptase since 1997. A pain-reliever and anti-inflammatory supplement that has anti-clotting activities without the risk of stomach bleeding? Sounds too good to be true? Let's look at the research.

The data

When searching PubMed for Serrapeptase, one can find close to 40 clinical studies, most of which are from European or Asian researchers, since Serrapeptase has not hit the mainstream in the U.S. The studies, on the whole, conclude that Serrapeptase can have tremendous benefits.

For example, one multi-center, double-blind, randomized trial done at the Institute of Clinical Otorhinolaryngology at the University of Naples, in Italy, found that Serrapeptase acted as an effective anti-inflammatory to improve ear, nose and throat disorders, and the supplement reduced pain. The study, which used 193 people and lasted eight days, also found that Serrapeptase caused no significant side effects.²

Another multi-center, double-blind study, published in the journal, *Pharmatherapeutica*, found that Serrapeptase reduced swelling in patients who underwent surgery to treat empyema (a collection of pus in the cavity between the lung and the membrane that surrounds it). This study included 174 patients and showed no adverse side effects. Another study involving post-operative swelling, and done by German researchers, showed that patients who had ankle surgery and were given Serrapeptase had a 50% reduction in swelling, while those patients who did not receive Serrapeptase had no reduction in swelling. Patients taking the supplement were also relieved of all pain by the tenth day after surgery.³



A small study (involving 20 patients) done over a period of six weeks and published in the *Journal of the Association of*

Physicians in India, found that Serrapeptase may help improve carpal tunnel syndrome. No significant side effects were observed.⁴

Another use for Serrapeptase involves the treatment of fibrocystic breast disease. In one double-blind study published in the Singapore Medical Journal, 70 women with breast engorgement were randomly divided into a treatment and placebo group. There was more reduction of breast pain and swelling in the women receiving Serrapeptase than there was for the women who did not receive the supplement. Again, no adverse reactions were reported.⁵

As for the cardiovascular benefits of Serrapeptase, the evidence supporting this is mostly anecdotal and based in large part on the research of the late Hans A. Nieper, M.D., an internist from Hannover, Germany, who is widely known and also considered antiestablishment. He studied the effects of Serrapeptase on plaque accumulations in the arteries. A book about Dr. Nieper's work, entitled, *The Curious Man: The Life and Works of Dr. Hans Nieper* (Avery Penguin Putnam, December 1998), provides insight into his studies. An Italian study done at the University of Naples in the department of vascular surgery, did show that Serrapeptase was effective and well tolerated in patients with inflammatory venous diseases. But more research is necessary to accurately and specifically determine the effects Serrapeptase can have on cardiovascular health.

Safety

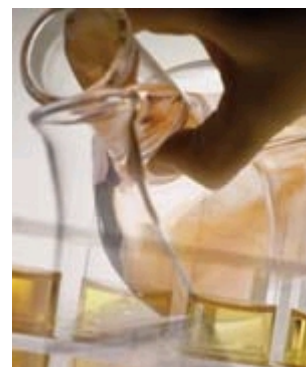
As with every substance one consumes (from food to pills), there is the potential for risk. Just because something is "natural" doesn't mean it is automatically harmless. Certainly, the ongoing and recent controversy over the regulation of nutritional supplements indicates that one needs to be cautious and informed when using any supplement. While naturally derived supplements can be beneficial and safe, they can also be harmful if used carelessly or without the help of a medical professional.

That said, Serrapeptase is a powerful enzyme that comes with a few cautions. In elderly people who use the product over a long period of time, gastrointestinal irritation can occur, though this is rare. There is also the increased risk of infection of the lung and pneumonia when using Serrapeptase. This is rare (as evidenced by a few isolated letters to the editor in medical journals)⁶ but is a possibility because Serrapeptase thins mucus secretions, which can lead to lung complications if one has a history of lung problems. Also note that the studies involving Serrapeptase do not extend over a long period of time. Therefore, the long-term effects of this supplement have not yet been determined.

Dosage

The recommended dose is 10 mg to 30 mg per day. For prevention, 10 mg daily. For arthritis, sinusitis, fibrocystic breast, bronchitis and cardiovascular problems, 20 mg daily. For pain, start with 10 mg daily and work up to 20 mg if needed. For injury, trauma or post surgery recovery, take 30 mg daily for two days, then go down to 20 mg daily until swelling and pain subside. Be sure to take Serrapeptase on an empty stomach, meaning that Serrapeptase should be taken at least two hours after eating, and no food should be consumed for a half hour after taking Serrapeptase.

It is important to note that not all Serrapeptase products are created equal. The enzyme activity is measured in units and clinical studies are based on the ratio of 10 mg of Serrapeptase equaling 20,000 units of activity. When purchasing the product be sure that the ratio of mg to units is 10 mg for every 20,000 units, or 5 mg for 10,000 units and so on. The average dose, therefore, is 20 mg—or 40,000 units.



Conclusion

Despite the fact that it has not been advertised in this publication, Life Extension members have used Serrapeptase for many years. It is largely via word of mouth that this dietary supplement has become so popular. While more research is clearly needed to fully substantiate its purported benefits, Serrapeptase has become a popular low-cost supplement to alleviate many common ailments.

Serrapeptase is made by a company called Cardiovascular Research Ltd. and is primarily sold to patients of alternative medicine physicians. A bottle of 100 5 mg tablets retails for \$18.00. Life Extension members pay \$13.50. If four bottles are purchased, the cost is reduced to \$12.56 per bottle.

To order Serrapeptase, order online or call 1-800-544-4440.



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