Decursinol PN and Decursinol GS

Decursinol PN
60 Vegetarian Capsules

Ingredients per 1 vegetable capsule:
Decursinol-50™ .......................... 250 mg
(extract from roots of Korean Angelica (Angelica gigas Nakai))
Excipients: Modified cellulose (vegetarian capsule)
Contains nothing other than listed ingredients.
Suggested Adult Use: Take one capsule twice daily, with or without food.
Suitable for Vegetarians.

Decursinol GS
120 Capsules

Ingredients per 2 capsules:
Potassium (from glucosamine sulfate 2KCl) ........................ 92mg
Chloride (from glucosamine sulfate 2KCl) ........................ 84mg
Decursinol-50™ .................................. 250mg
(extract from roots of Korean Angelica (Angelica gigas Nakai))
Glucosamine sulfate 2KCl ........................ 750mg
Excipients: Gelatin capsule, cellulose, magnesium stearate (vegetable source)
Contains nothing other than listed ingredients.
Suggested Adult Use: Take two (2) capsules twice daily, with or without food.

Ingredients
The primary ingredient of Decursinol PN, Decursinol-50™, is a whole root extract from the plant Angelica gigas Nakai, commonly known as Korean Angelica. This plant has a history of traditional use dating back over a thousand years. The product is prepared via a proprietary extraction process in which dried whole roots undergo an alcohol-based extraction yielding a high concentration of the major active compounds of the root: decursinol and decursin. Studies suggest that Decursinol-50™ may be useful for the treatment and relief of minor pain.*

Benefits
Minor Pain Relief with Decursinol PN*
Animal and in vitro experiments suggest the ability of Decursinol-50™ extract, and the major components decursinol and decursin, to alleviate minor pain. Decursinol, one of the compounds purified from the dried roots of Angelica gigas Nakai, has been studied in animals for its pain relieving effects. It appears to possess analgesic effects in animal studies by impacting opioid receptors in the central nervous system, but may also affect adrenergic and serotonergic receptors. The central nervous system effect seems to be the major mechanism of action of the product. Decursinol, a related but distinct compound from Angelica gigas Nakai, has shown modulatory activities on a number of degradation enzymes and cytokines of the immune system in vitro.

Maintain Healthy Joints and Get Minor Pain Relief with Decursinol GS*
Decursinol-GS is a combination of Decursinol-50™ and glucosamine sulfate designed to support joint function and promote optimal joint comfort.* Glucosamine is a key structural component of cartilage and plays an important role in promoting healthy joint cartilage.* Glucosamine sulfate has been the subject of numerous clinical trials showing significant benefits to joint health.* The glucosamine sulfate used in this product is sodium-free.

Glucosamine sulfate is the most well studied form of glucosamine. A number of trials have shown glucosamine sulfate’s ability to support healthy joint function. In order to better understand glucosamine’s role in joint health, it is important to understand joint structure and function. Cartilage in the joints acts as a shock absorber to cushion the blows of daily wear and tear. Joint cartilage is made up of a unique connective tissue that consists of collagen and proteoglycans. Collagen is a strong, fibrous, insoluble protein. Proteoglycans are large, carbohydrate-rich protein chains made up of 95 percent polysaccharides and 5 percent protein called glycosaminoglycans (GAGs). GAGs are composed of repeating two-sugar units (disaccharides) that contain glucosamine sulfate and other amino sugars. Surrounding the joint cartilage is synovial fluid, which contains many substances including its chief component, hyaluronic acid. Hyaluronic acid forms the backbone of other proteoglycans and is responsible for the thickness of synovial fluid as well as its lubricating and shock-absorbing properties. Synovial fluid also provides nutrients for the joint cartilage.

Glucosamine sulfate is a normal constituent of glycosaminoglycans in cartilage and synovial fluid. In essence, glucosamine sulfate provides important building blocks for cartilage production. Laboratory studies suggest that glucosamine may also function to stimulate production of cartilage-building proteins. It is also thought that the sulfate portion of the molecule contributes to the efficacy of glucosamine sulfate in the synovial fluid by providing the elemental sulfur needed for strengthening cartilage and aiding glycosaminoglycan synthesis.1,4,7

Glucosamine sulfate has been the subject of research for over twenty years. Clinical trials as well as experimental studies have repeatedly supported the efficacy of oral glucosamine sulfate in supporting joint function. In one large open trial, over 1200 people took oral glucosamine sulfate for periods ranging from 36 to 64 days. In this large open trial, ninety-five percent of the subjects experienced greater joint comfort and increased mobility. The physicians reported “good” results in 59%, and “sufficient” results in 36%. Furthermore, the improvement in joint health lasted for up to three months after the glucosamine sulfate was discontinued.*

A recent multi-center randomized, placebo-controlled study that was six months in duration, known commonly as the GUIDE study, was performed in 318 subjects. The study consisted of two treatment groups and a placebo group.
One of the treatment groups received glucosamine sulfate in a daily dose of 1500 milligrams. The results of this important study confirmed that the efficacy of glucosamine sulfate for supporting joint function was significantly superior to placebo on all parameters measured.4

Taken together, the scientific data suggests that Decursinol-GS is a unique combination of two important ingredients with the potential to support optimal joint function and enhance feelings of joint comfort and ease.5

Animal Data

In a series of animal experiments, mice were subjected to testing on various models of pain to determine the effects of decursinol at alleviating the pain response. The methanolic extract from dried roots of Angelica gigas Nakai was shown to significantly enhance the latency of the pain response to both the tail-flick and hot-plate experiments in these animals, indicating higher tolerance to pain in these animals. Researchers suggest that the tail-flick response pain model may be a good indicator of response to pain in humans. As is often the case with animal research, the doses used were quite large. The results showed that the pain relief effect was dose-dependent and started at an oral dose of 100 mg/kg of body weight. A significant sedative relaxing effect was shown at an oral dose of 200mg/kg of body weight.6

In a separate animal pain model (also a part of the same set of experiments described above), decursinol was found to attenuate the number of writhings induced by intraperitoneal injections of acetic acid. Injection of acetic acid causes inflammation and the writhing response is considered an inflammatory pain model. A decrease in the number of writhings is another crude indicator of higher levels of pain tolerance in mice. Studies using further pain models were also performed. In one such study, formalin was injected into the hindpaw of several mice. Two distinct periods of licking/flinching and biting the paw are observed in the formalin test. The decursinol-treated mice exhibited diminished pain sensations in both phases, especially in the second phase. In addition, production of the inflammatory cytokines TNF-alpha, IL-1beta and IFN-gamma was shown to be inhibited by decursinol. These series of animal experiments highlight a number of potentially distinct mechanisms whereby decursinol may decrease the normal response to pain.5

In vitro Studies

Decursin, a separate compound from the roots of Angelica gigas Nakai, has been shown to have anti-inflammatory effects in vitro. A trial was performed in which both mouse and human macrophages were activated with LPS (a bacterial lipopolysaccharide that is a known inducer of inflammation) in the absence and presence of decursin. Macrophages play important roles in the regulation of inflammation in the body. These cells, when activated, stimulate the activity of other immune system molecules such as degradation enzymes (i.e. MMPs, or matrix metalloproteinases, enzymes that degrade extracellular matrix proteins) and cytokines. Decursin was found to suppress the induction of MMP-9 by macrophages in vitro in a dose-dependent manner. It was also able to inhibit LPS-induced nitric oxide production, another response associated with inflammation, in vitro. In further investigations, decursin was also found to suppress the production of a number of different inflammatory markers, such as MCP-1 (which plays a role in the recruitment of immune cells to the inflammatory site), IL-8, TNF-alpha, and IL-1 beta. Decursin was found to suppress all of these markers at the transcriptional level in vitro by blocking the genes involved in the associated immune responses.3

Clinical Trial Data

A recent clinical trial was conducted at the Mapo Pain Clinic in South Korea to evaluate the effectiveness and safety of GWB78 extract, also known as Decursinol-50™, in a group of individuals with chronic pain not responsive to other treatments. Each participant (40 participants total) was administered 500 milligrams of GWB78 powder twice daily for two weeks in conjunction with a physical therapy regimen. The control group consisting of 40 additional participants was treated only with physical therapy for the same time period. Blood samples were taken and the degree of pain was measured using a visual analog scale (VAS). VAS pain scores were significantly reduced by an average of 68% in the participants treated with Decursinol-50™ whereas pain scores in the control group (physical therapy alone) only improved by an average of 15%. The treatment was well tolerated with no adverse effects noted, indicating the safety of the extract, and no significant changes in blood measures were seen.8 Further clinical trials with larger numbers of participants are currently underway.

*This statement has not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

Scientific References


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Relief from Minor Pain®

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