

Glucosamine Sulfate

(Hypoallergenic)



Item # 50710

Available in bottles of 120 capsules

The Possible Benefits of Glucosamine Sulfate, a Dietary Supplement

- Provides building blocks for connective tissue components, such as glycosaminoglycans and proteoglycans*
- Provides nutrition that supports protection and maintenance of connective tissue*
- Uses a balanced combination of sodium and potassium salts of glucosamine sulfate

Description

Glucosamine is a simple amino sugar, a monosaccharide with an amino group as part of its structure. Glucosamine occurs as a nutrient and an intermediary metabolite. Glucosamine is also a precursor substance for connective tissues and other cementing materials that pack the cells together, and otherwise give support to the fabric of the body. Such large molecular complexes are used, together with collagen, to give bulk and strength to the connective tissues. Starting from glucosamine, and using other simple sugars as substrates, a complex, enzyme-regulated process generates glycosaminoglycans (GAGs). These in turn become further organized into the proteoglycans (PG) of cartilage, bone, ligaments, tendons, sclera, and other types of connective tissues.

D-glucosamine → *N-acetyl-D-glucosamine (NAG)* → *GAG* → *PG*

Glycosaminoglycans are most prevalent in the matrix materials into which the cells of solid tissues are anchored. The GAGs are major structural contributors to the basement membranes of the skin and internal epithelia, the intima of the blood vessels, the heart valves, and the lens and

sclera of the eye, as well as synovial fluid and the linings of the joints.

Glucosamine can be a starting substrate for major known GAGs such as chondroitin sulfate, dermatan sulfate, heparan sulfate, and hyaluronate. These GAGs subsequently become attached to protein chains, which serve as a scaffolding for them. The proteoglycans that result then become further organized and aggregated into the extra-cellular matrix materials for the diverse connective tissues.

The extracellular matrix materials that surround the cells of solid tissues are integrated into the homeostatic mechanisms which support tissue and organ functions. The biological roles of the GAGs, usually as incorporated into PG, begin with their presence as packing and mechanical support for the connective tissues (filling in between collagen and other fibrous components). Recent research findings indicate the GAG/PG participate functionally and homeostatically in processes such as cell adhesion, motility, and aggregation; tissue morphogenesis and renewal, growth factor effects; angiogenesis; and

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the initiation, amplification, and termination of inflammatory cascades.*

Glucosamine is a major component of several GAGs that are prominent in the linings of the joints. The joints include the zones of friction between moving bones, and are sites where connective tissues are worn away most rapidly. Therefore the joints place a high demand on the capacity of their lining epithelia to produce new cartilage and other connective tissues. Anti-inflammatory substances may relieve joint pain, but they can also inhibit the production of the proteoglycans that help renew the joint linings and the synovial fluid. Glucosamine as its sulfate salt has been

shown from several studies to be of importance in joint maintenance and renewal.*

Orally administered glucosamine is taken up actively from the intestine via a specific carrier mechanism. Studies in animal models of connective tissue production, renewal, and breakdown indicate that glucosamine, given as its sulfate salt, contributes in a major way to the homeostatic regulation of GAG synthesis and turnover.* Glucosamine contributed to the modulation of oxygen radical production and the resulting conservation of formed connective tissue.* In studies with humans, glucosamine sulfate was well tolerated.

Serving Size: 2 Capsules

Servings Per Container: 60

Amount Per Serving:

Glucosamine Sulfate (Sodium) (shrimp, crab, lobster) 500 mg

Glucosamine Sulfate (Potassium) (shrimp, crab, lobster) 500 mg

Other ingredients: Gelatin, cellulose, L-leucine, silicon dioxide.

Suggested Use: As a dietary supplement, 1 or 2 capsules two or three times daily, or as directed by a healthcare practitioner.

Caution: Derived from the shells of crustaceans. Individuals who are allergic to shellfish may react to this product. Also, individuals unable to tolerate sulfur may want to use Item no. 71140 N-Acetyl Glucosamine instead.

References

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