

# ChondroSamine Plus® & ChondroSamine-S™

Comprehensive Glucosamine & Chondroitin Sulfate Products

**ChondroSamine Plus®** and **ChondroSamine-S™** are two superior Biotics Research Corporation products that offer comprehensive joint and connective tissue support by virtue of their nutrient synergists. Both formulas supply a wide selection of important nutrient synergists, which include purified chondroitin sulfate, glucosamine, MSM, vitamin C, manganese, niacin (as niacinamide), pantothenic acid, folate, vitamin B12, superoxide dismutase (SOD) and catalase, along with *Saccharum officinarum* (sugarcane fiber), as a superior source of silicon. According to Natural Standard, "most long-term clinical trials show that taking chondroitin sulfate orally for about two years can slow the progression of hip or knee [degeneration] by modestly attenuating joint-space narrowing or cartilage degeneration."<sup>(1)</sup>

Chondrosamine sulfate is a glycosaminoglycan formed by the 1-3 linkage of glucuronic acid to N-acetylgalactosamine.<sup>(1)</sup> Chondroitin sulfates and associated co-factors are recognized as "major players" in the regeneration of healthy cartilage.

Glucosamine is manufactured in the body from glucose and an amine.<sup>(2)</sup> Clinical research has demonstrated that taking glucosamine sulfate orally significantly improves symptoms of pain and functionality compared to placebo.<sup>(3)</sup> Glucosamine has been recognized as an effective and safe component in delaying the progression,

and improving the symptoms associated with chronic cartilage breakdown of the knee.<sup>(4)</sup> Additionally, glucosamine was superior to placebo in the treatment of pain and functional impairment resulting from symptomatic cartilage breakdown.<sup>(5)</sup> Glucosamine was also demonstrated to slow radiological progression of cartilage breakdown of the knee over a three-year period (standard mean difference (SMD) 0.24, 95% CI 0.04, 0.43).<sup>(5)</sup> Glucosamine sulfate appears to decrease pain scores by about 28% to 41%, and improve functionality scores by 21% to 46%.<sup>(5,6)</sup>

Cartilage integrity is dependent upon the presence of sulfur. MSM is a sulfur-containing compound, containing 34% by weight. It has been noted to be protective of joints and cartilage. Sulfur helps maintain the structure of connective tissue by forming cross-linkages through disulfide bonds. Glycosaminoglycans (GAGs) are the fundamental building blocks of joint cartilage, and GAG molecules are linked together in chains by disulfide bonds (two sulfur atoms). The disulfide bridges reduce conformational flexibility of GAG chains, making cartilage firm and resilient.



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These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.

**ChondroSamine Plus**<sup>®</sup> supplies glucosamine as glucosamine hydrochloride, supplying 1,000mg of elemental glucosamine derived from 1250mg glucosamine hydrochloride. **ChondroSamine-S**<sup>™</sup> supplies glucosamine as glucosamine sulfate, supplying 600mg of elemental glucosamine, derived from 1250mg of glucosamine sulfate.

The combination of nutrients found in both **ChondroSamine Plus**<sup>®</sup> and **ChondroSamine-S**<sup>™</sup> may offer support and functionality for both structural integrity and the vascular system.<sup>(7,8,9)</sup> The components of these formulations contain substances that are found naturally in the human body, and have nutrients demonstrated to “protect and promote normal artery and vein function.”<sup>(10)</sup> The combination of the above noted nutrients serve to provide support for the health of joints and the musculoskeletal system.

**References**

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3. <https://naturalmedicines.therapeuticresearch.com/databases/food-herbs-supplements/professional.aspx?productid=807>
4. Poolsup N, Suthisang C, Channark P, Kittikulsuth W. Glucosamine long-term treatment and the progression of knee osteoarthritis: systematic review of randomized controlled trials. *Ann Pharmacother* 2005 Jun 39(6):1080-7. Epub 2005 Apr 26.
5. Towheed TE, Maxwell L, Anasasiades TP, Shea B, Houpt J, Robinson V, Hochberg MC, Wells G. Glucosamine therapy for treating osteoarthritis. *Cochrane Database Syst Rev*. 2005 Apr 18;(2):CD002946.
6. Poolsup N, Suthisang C, Channark P, Kittikulsuth W. Glucosamine long-term treatment and the progression of knee osteoarthritis: systematic review of randomized controlled trials. *Ann Pharmacother*. 2005 36:1080-7.
7. Leeb BF, Schweitzer H, *J Rheumatol* 2000 27:205-11.
8. McAlindon TE, LaValley MP, Gukin JP, Felson DT. Glucosamine and chondroitin for treatment of osteoarthritis: a systemic quality assessment and meta-analysis. *JAMA* 2000 283:1469-75.
9. Richey F, Bruyere O, Ethgen O, et al. Structural and symptomatic efficacy of glucosamine and chondroitin in knee osteoarthritis: a comprehensive meta-analysis. *Arch Intern Med*. 2003 163:1514-22.
10. Pizzorno JE, Murray MT. **Textbook of Natural Medicine**. 2<sup>nd</sup> Edition. Chrchill Livingstone. 1999, pp. 330.

**ChondroSamine Plus**<sup>®</sup> is available in 90-count bottles (#7815).

<b>Supplement Facts</b>		
Serving Size: 3 Capsules	Servings Per Container: 30	
	Amount Per Serving	% Daily Value
Vitamin C (as ascorbic acid)	180 mg	300%
Niacin (as niacinamide)	50 mg	250%
Folate (as calcium folinate)	200 mcg	50%
Vitamin B12 (as methylcobalamin)	3 mcg	50%
Pantothenic Acid (as calcium pantothenate)	45 mg	450%
Manganese (as manganese gluconate)	6 mg	300%
Glucosamine (as glucosamine HCl)	1,000 mg	*
Purified Chondroitin Sulfates (bovine)	500 mg	*
MSM (methylsulfonylmethane)	100 mg	*
Sugarcane (Saccharum officinarum) (shoot) (extract)	25 mg	*
Superoxide Dismutase (from vegetable culture †)	20 mcg	*
Catalase (from vegetable culture †)	20 mcg	*

\* Daily Value not established

**Other ingredients:** Capsule shell (gelatin and water), medium chain triglycerides and magnesium stearate (vegetable source).

**Contains ingredients derived from shrimp and crab shell.**

† Specially grown, biologically active vegetable culture containing naturally associated phytochemicals including polyphenolic compounds with SOD and catalase, dehydrated at low temperature to preserve associated enzyme factors.

‡ Glucosamine (1,000 mg elemental) derived from 1,250 mg glucosamine HCl.

**This product is gluten and dairy free.**

**RECOMMENDATION:** Three (3) capsules each day as a dietary supplement or as otherwise directed by a healthcare professional.

**CAUTION:** Not recommended for pregnant women.

**KEEP OUT OF REACH OF CHILDREN**

Store in a cool, dry area. Sealed with an imprinted safety seal for your protection.

Product # 7815 Rev. 08/17

**ChondroSamine-S**<sup>™</sup> is available in 90-count bottles (#7818).

<b>Supplement Facts</b>		
Serving Size: 3 Capsules	Servings Per Container: 30	
	Amount Per Serving	% Daily Value
Vitamin C (as ascorbic acid)	180 mg	300%
Niacin (as niacinamide)	50 mg	250%
Folate (as calcium folinate)	200 mcg	50%
Vitamin B12 (as methylcobalamin)	3 mcg	50%
Pantothenic Acid (as calcium pantothenate)	45 mg	450%
Manganese (as manganese gluconate)	6 mg	300%
Glucosamine (as glucosamine sulfate)	600 mg	*
Purified Chondroitin Sulfates (bovine)	500 mg	*
MSM (methylsulfonylmethane)	100 mg	*
Sugarcane (Saccharum officinarum) (shoot) (extract)	25 mg	*
Superoxide Dismutase (from vegetable culture †)	20 mcg	*
Catalase (from vegetable culture †)	20 mcg	*

\* Daily Value not established

**Other ingredients:** Capsule shell (gelatin and water) and magnesium stearate (vegetable source).

**Contains ingredients derived from shrimp and crab shell.**

† Specially grown, biologically active vegetable culture containing naturally associated phytochemicals including polyphenolic compounds with SOD and catalase, dehydrated at low temperature to preserve associated enzyme factors.

‡ Glucosamine (600 mg elemental) derived from 1,260 mg glucosamine HCl.

**This product is gluten and dairy free.**

**RECOMMENDATION:** Three (3) capsules each day as a dietary supplement or as otherwise directed by a healthcare professional.

**Caution:** Not recommended for pregnant women.

**KEEP OUT OF REACH OF CHILDREN**

Store in a cool, dry area. Sealed with an imprinted safety seal for your protection.

Product # 7818 Rev. 09/14



**BIOTICS**<sup>®</sup>  
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to Create Superior Nutritional Supplements



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