

ArthroSoothe™ Supreme

Comprehensive nutrition support for optimal function
and repair of joints*



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ArthroSoothe™ Supreme offers comprehensive support for joints, providing the proper nutrition they need for healthy function, repair, and adequate lubrication, helping to reduce excess fluid that results in swelling and suboptimal joint health.*

Joints, cartilage, ligaments, tendons and synovial fluid (for joint lubrication) undergo a continuous but slow turnover and remodeling process. This is affected by many physiological factors such as diet, supplements, activity, stress, gut health, allergies, immune status, infections, aging, hormones, toxic load and/or various medications. The continuous repair of joints and tissue is dependent on suitable and supportive nutrients, such as those found in ArthroSoothe™ Supreme. Proper exercise is also a key factor because it improves blood and lymph circulation, which enables nutrients to reach their target tissues more effectively.

Featuring Univestin®

ArthroSoothe™ Supreme features Univestin® Proprietary Blend, a specially formulated, patented compound clinically proven to alleviate joint discomfort, reduce stiffness and improve mobility.^{1,2} It consists of a blend of extracts from the plants *Scutellaria baicalensis* (Chinese skullcap) and *Acacia catechu* (cutch tree), standardized for specific bioflavonoids which help support a healthy inflammatory process.^{1,3} These bioflavonoids specifically inhibit the pro-inflammatory enzymes COX1 and COX2 in a balanced manner, as well as the 5-LOX enzyme, thus decreasing the metabolism of arachidonic acid to inflammatory prostaglandins, leukotrienes and thromboxanes.⁴ Univestin® is a potent antioxidant and has been shown to neutralize inflammatory reactive oxygen species (ROS), thereby reducing the detrimental oxidative stress induced by wear and tear on joints.⁵ This blend of plant extracts has been shown *in vivo* and *in vitro* testing to be safe for human use with no adverse side effects, and effective on endpoints relating to joint health in randomized, well controlled clinical trials.⁶⁻⁸

Additional Highlights

Glucosamine Sulfate provides precursors for the continuous repair of joint and spine cartilage, ligaments, and tendons by stimulating the formation of joint-building proteoglycans. ArthroSoothe™ Supreme contains 1500 mg of glucosamine sulfate, which is the most commonly studied effective dose. Glucosamine has been shown to prevent the narrowing of joint spaces and even increase it, with improved efficacy when combined with MSM.^{9,10}

Glucosamine has long been regarded for conditions involving joint inflammation. It may be particularly beneficial for individuals with rheumatoid arthritis (RA). A study comparing glucosamine to placebo in RA patients showed that even with no significant changes to erythrocyte sedimentation rate (ESR) or C-reactive protein (CRP) levels, "patients' self-evaluations and the physicians' global evaluations indicated that the glucosamine treatment produced noticeable improvements in symptoms."¹¹

RA is suspected to be driven in part by sensitivity to dietary lectins, particularly those found in wheat and nightshade vegetables. "The normal human IgG molecule possesses carbohydrate side chains, which terminate with galactose. In rheumatoid arthritis much of the galactose is missing, so that the subterminal sugar—N-acetyl glucosamine—is exposed instead. These deficient IgG molecules feature strongly in the circulating immune complexes that cause fever and symptoms. In diet responsive rheumatoid arthritis one of the commonest trigger foods is wheat, and wheat lectin is specific for N-acetyl glucosamine—the sugar that is normally hidden but exposed in rheumatoid arthritis. This suggests that N-acetyl glucosamine oligomers [...] might be an effective treatment for diet associated rheumatoid arthritis."¹⁰ Stated simply, supplemental glucosamine may be thought of as a kind of "competitive inhibitor" for dietary lectin binding to exposed protein fragments.

MSM (methylsulfonylmethane) is a sulfur-containing compound called "an effective natural analgesic and anti-inflammatory agent."⁹ MSM reduces inflammatory processes via inhibition of NF- κ B, iNOS and COX2, and also protects against cartilage degradation. Additionally, "MSM may indirectly have an inhibitory role on mast cell mediation of inflammation. With the reduction in cytokines and vasodilating agents, flux and recruitment of immune cells to sites of local inflammation are inhibited."¹³

In a randomized, double-blind, placebo-controlled trial with subjects 40-76 years of age with knee osteoarthritis (OA) pain, compared to placebo, MSM produced significant decreases in pain and impairment of physical function, with improvement in performing activities of daily living.¹⁴ In a mouse model of OA, intake of MSM for 13 weeks decreased cartilage degeneration in the knee joint in a dose-dependent manner.¹⁵ Some studies show that, compared to placebo, MSM offers only small improvements in pain and physical function in subjects with OA of the knee, but results are better when MSM is used in combination with other joint-supportive compounds, such as glucosamine.¹⁶

In a trial of patients with mild to moderate OA, 12 weeks of supplementation with a combination of MSM and glucosamine "showed better efficacy in reducing pain and swelling and in improving the functional ability of joints than the individual agents." The onset of analgesic and anti-inflammatory effects was more rapid with the combination than with glucosamine alone.⁹

N-acetyl-L-cysteine (NAC) is a source of sulfur (necessary for collagen formation), and a precursor to glutathione, which accounts for its antioxidant effects. In mouse models of arthritis, NAC reduced the degree of ROS produced in neutrophils and monocytes and was protective against collagen-induced arthritis.^{17,18} Rat models of allergic rhinitis have shown NAC to inhibit accumulation of inflammatory cells, downregulate expression of iNOS, and reduce serum levels of TNF- α .¹⁹

New Zealand Green Lipped Mussel (*Perna canaliculus*): The hardy Maori tribespeople of New Zealand—whose diet included substantial amounts of green lipped mussels—were noted throughout history for their health and physical robustness. Green lipped mussel (GLM) is a source of glucosamine and chondroitin sulfate, both of which are well-regarded for supporting joint health.²⁰⁻²²

The primary mechanism behind GLM's efficacy for osteoarthritis is inhibition of COX1 and COX2 activity, with effects greater than those from fish oil.²³ GLM also inhibits activity of 5-lipoxygenase, and its general anti-inflammatory effects were observed at a concentration two orders of magnitude lower than that of fish oil rich in EPA. This led researchers to speculate that a separate component of GLM—a different fatty acid—is primarily responsible for the impressive potency. They found that GLM is a rich source of furan fatty acids—a fatty acid whose concentration is high in aquatic plants and organisms but limited in other species.²⁴ Furan fatty acids are potent antioxidants and anti-inflammatories, which, combined with the other bioactive compounds in GLM, explain why GLM is so effective for joint pain and inflammation. GLM contains additional novel omega-3 polyunsaturated fatty acids that confer anti-inflammatory effects.²⁵

This unique ingredient may be of additional benefit to patients taking NSAIDs, as GLM extract helps protect the gastrointestinal mucosal lining from the damage that often results from chronic NSAID use.²⁶ The green lipped mussel in this product is sourced from the coast of New Zealand and is processed within two hours of harvest to prevent potential degradation, resulting in a high quality, highly bioactive compound.

Quercetin is called “king of the flavonoids” because of its powerful antioxidant and anti-inflammatory properties. It is found in many foods that are recognized for their health benefits, such as red onions, apples, olive oil, dark berries and grapes, salad greens and culinary herbs, and it contributes to the richly colored pigments in these foods. Quercetin supplementation has been shown to decrease inflammatory markers in pre-hypertensive adults, and improve antioxidant status and reduce markers of oxidative stress and inflammation in the blood of sarcoidosis patients.^{27,28} Taken together with findings from studies in healthy subjects, evidence indicates the beneficial effects of quercetin are more pronounced in individuals with significantly higher levels of inflammation and oxidative stress.²⁹

The human secretory phospholipase A2 group IIA (PLA2-IIA) is a lipolytic enzyme. Inhibiting PLA2-IIA results in decreased inflammation via reduced eicosanoid metabolites of the arachidonic acid cascade, upstream of COX and LOX.³⁰ Quercetin is a PLA2-IIA inhibitor, complementing the anti-inflammatory action of Univestin®. Quercetin may have synergistic effects when used in combination with glucosamine and sources of chondroitin sulfate, such as provided in ArthroSoothe™ Supreme.³¹

Trans Resveratrol is a polyphenol most often associated with grapes and red wine, but also found in raspberries, plums, peanuts and açai berries. ArthroSoothe™ Supreme contains trans resveratrol, the isomer to which most of this compound's beneficial effects are attributed. Such effects include anti-inflammatory and antioxidant capacity, protecting against oxidation of lipids and lipoproteins, and decreasing platelet aggregation.^{32,33} Resveratrol reduces inflammation by suppressing activation of NF-κβ, with the downstream effect of limiting expression of the inflammatory enzymes COX2 and iNOS.^{34,35}

Recommended Use:

- Take four capsules per day with meals, or as directed by a health care practitioner.
- ArthroSoothe Supreme™ may be a preferred choice for situations where more serious cartilage deterioration and/or injuries have occurred.
- Consider combining with complementary Designs for Health products, such as Arthroben®, Curcum-Evail®, or Inflammatone™.
- **Note:** Due to the green-lipped mussel and glucosamine sulfate in this product, use caution when recommending ArthroSoothe™ Supreme to patients with shellfish allergies.

For a list of references cited in this document, please visit:

http://catalog.designsforhealth.com/assets/itemresources/ArthroSoothe_Supreme_References.pdf

Dosing recommendations are given for typical use based on an average 150 pound healthy adult. Healthcare practitioners are encouraged to use clinical judgement with case-specific dosing based on intended goals, subject body weight, medical history, and concomitant medication and supplement usage. Any product containing botanical substances has the potential for causing individual sensitivities. Individual monitoring, including liver function tests, may be appropriate.

GlycoMarine® is a registered trademark of Oceana Products, Inc.

Univestin® is a registered US trademark owned by Unigen, Inc.

Univestin® joint care ingredient is covered by US Patent number US#7674830 and multiple others, all owned by Unigen.

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

To contact Designs for Health, please call us at (860) 623-6314, or visit us on the web at www.designsforhealth.com.

Supplement Facts

Serving Size 4 capsules
Servings Per Container 30

Amount Per Serving	% Daily Value
Glucosamine Sulfate (as 2KCl form)	1.5 g *
Methylsulfonylmethane (MSM)	500 mg *
Univestin® Proprietary Blend <i>Scutellaria baicalensis</i> (root) <i>Acacia catechu</i> (heartwoods)	500 mg *
Quercetin	500 mg *
N-Acetyl-L-Cysteine	200 mg *
Green Lipped Mussel Extract (GlycoMarine®)	100 mg *
Trans Resveratrol (<i>Polygonum cuspidatum</i>)(root)	10 mg *

*Daily Value not established.

Other Ingredients: Cellulose (capsule), microcrystalline cellulose, silicon dioxide, vegetable stearate.

Contains shellfish (mussels, crab, shrimp).