Green-Lipped Mussels (GLM) (Perna canaliculus) are sourced from clear unpolluted waters off New Zealand, tested, and guaranteed pure. They contain glycosaminoglycans, the principal component of cartilage and synovial fluid, as well as eicosatetraenoic acid, which modulates inflammatory activity and aids in the reduction of joint swelling.\[1,2\] GLM has been shown to inhibit COX-1, COX-2, and lipoxygenase enzymes.\[3,4\] In a randomized trial, GLM reduced symptoms in up to 76% of people with joint inflammation and deterioration.\[5\] In a similar trial, subjects with joint conditions had 50% and 67% pain reduction, respectively, after supplementing for three months.\[6\]

Glucosamine Sulfate, Chondroitin Sulfate, and Methylsulfonylmethane (MSM) Glucosamine and chondroitin are needed for the formation, repair, and resiliency of cartilage. Glucosamine is an amino sugar that supports the synthesis of chondrocytes and synovial fluid and inhibits free radical damage; it may also improve circulation in blood vessels leading to joints.\[7\] Chondroitin is a complex carbohydrate that helps cartilage retain water, which is needed for resistance and elasticity. Chondroitin sulfate is thought to inhibit free radical damage, inhibit enzymes that breakdown collagen, modulate inflammation, and support proteoglycan synthesis.\[8-11\] Combined supplementation may be effective in patients with moderate to-severe knee discomfort.\[12-14\] Please note, glucosamine does not appear to have an effect upon glucose tolerance test or hemoglobin A1C readings.\[15\] MSM is a naturally occurring, sulfur-containing, water-soluble compound also known as DMSO. Research suggests that it has antioxidant and inflammation-modulating properties,\[16,17\] and that it remains in the blood up to five times as long as DMSO.\[18\] In a 12-week, randomized, double-blind, placebo-controlled study on 50 patients with knee cartilage deterioration, 3 g/day MSM produced significant decreases in WOMAC* pain and physical function scoring.\[19\]

Hyaluronic Acid, a naturally occurring glycosaminoglycan found in synovial fluid, helps create a viscous environment, cushion joints, and helps maintains normal function. It has both inflammation-modulating and antioxidant properties,\[20,21\] and has been shown to positively influence cell-signaling as it relates to protecting cultured human chondrocytes and collagen biosynthesis.\[22\] In a rat model, treatment with hyaluronic acid, chondroitin, and glycosaminoglycans limited erosive action in articular joints of the knee and paw, reduced lipid peroxidation, restored endogenous antioxidants, decreased plasma TNF-alpha levels, and limited synovial neutrophil infiltration.\[23\]

Vitamin C and Manganese Vitamin C is essential for every step in the synthesis of collagen and for maintaining collagen integrity, yet it gets destroyed during collagen biosynthesis.\[24\] Serum levels of ascorbate and dehydroascorbate appear to be related to the degree of joint inflammation in arthritic rats.\[25\] Manganese is important in the growth and development of normal bone and in the synthesis of cartilage.\[26\] Animal and human studies have demonstrated a joint- supportive, inflammation-modulating effect of combined glucosamine, chondroitin, and manganese ascorbate measurable by indices such as the Lesquene Index, X-rays, histologic (tissue) index (HI) scoring of lesions, T-cell proliferation, and serological studies for antibody classes and subclasses.\[27,28\]
**Supplement Facts**

<table>
<thead>
<tr>
<th>Serving Size: 2 Capsules</th>
<th>Servings Per Container: 60</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Amount Per Serving % Daily Value</strong></td>
<td></td>
</tr>
<tr>
<td>Vitamin C (as ascorbic acid)</td>
<td>38 mg</td>
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<tr>
<td>Manganese†</td>
<td>5 mg</td>
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<tr>
<td>TRAACSTM Manganese Glycinate Chelate</td>
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<tr>
<td>Green Lipped Mussel (Porana canaliculus)</td>
<td>500 mg</td>
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<tr>
<td>MSM (methylsulfonylmethane)</td>
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<tr>
<td>Glucosamine HCL</td>
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<tr>
<td>Chondroitin Sulfate</td>
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<tr>
<td>Hyaluronic Acid</td>
<td>15 mg</td>
</tr>
<tr>
<td><strong>Daily Value not established</strong></td>
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</tr>
</tbody>
</table>

†TRAACS is a registered trademark of Albion Laboratories.

**Other Ingredients:** HPMC (capsule), stearic acid, silica. Contains shellfish (mussels, shrimp, crab, lobster, prawns).

**REFERENCES**


**DOSAGE:**

Take two capsules twice daily or as directed by your healthcare practitioner.

**CAUTION:**

Avoid if allergic to shellfish. Consult with your healthcare practitioner before use. Keep out of reach of children.

*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.