# Joint HA



### **Clinical Applications**

- Supports Joint Mobility and Comfort\*
- Supports Healthy Synovial Fluid\*
- Supports Joint Integrity and Function\*

Joint HA is a breakthrough formula designed for active adults who don't want to slow down or reduce their ability to perform athletic tasks—from walking to extreme sports. It promotes healthy joint fluid and synovial membranes, supports joint mobility, and helps support cytokine and eicosanoid balance. Keep the fluid in your joints healthy just as you would change the oil in your car to get more mileage. Let Joint HA help you stay active and perform well!\*

All Living Health Integrative Medicine Formulas Meet or Exceed cGMP Quality Standards

#### **Discussion**

Joint HA provides primary support for joint lubrication and comfort in the face of aging, normal wear and tear, and robust physical activity. This unique formula addresses the health of the total joint, including articular cartilage (highly specialized connective tissue), the synovial membrane (a thin layer of tissue that contains synoviocytes), and the synovial fluid (the fluid that lubricates the joint). Providing early support for the joint's cartilage matrix can tip the balance in favor of anabolism (building up) versus catabolism (breaking down). A proprietary blend of ingredients makes Joint HA the early "go-to" formula for healthy joint maintenance.\*

**Hyal-Joint**<sup>®</sup> This proprietary complex is rich in high-molecular–weight hyaluronic acid, along with polysaccharides and collagen. Hyaluronic acid (HA), the principal component of Hyal-Joint, is a lubricating substance produced naturally in the body.<sup>[1]</sup> It is found in abundance in the synovial fluid and extracellular matrix of joints where it reduces friction between cartilage surfaces and helps maintain cytokine balance. Hyaluronic acid helps maintain the quality of the synovial fluid and the integrity of the synovial membrane, both key factors in the health of the joint itself. Oral HA is absorbed in the small intestine and has yielded positive results in human, animal, and cell studies.<sup>[2,3]</sup> Cell studies suggest that high-molecular–weight HA has a positive effect on cytokine balance due to downregulation of IL-8, iNOS, aggrecanase-2, and TNF-alpha gene expression.<sup>[4]</sup> In vitro efficacy studies found Hyal-Joint to be two to four times more effective than fermented HA in stimulating the synthesis of endogenous HA and improving the concentration and viscous properties of joint fluid.\*<sup>[5-7]</sup>

Research on Hyal-Joint has yielded positive outcomes.<sup>[8]</sup> In humans, a randomized, double-blind, placebo-controlled trial indicated that oral Hyal-Joint (80 mg/d) resulted in significant improvements in WOMAC (Western Ontario and McMaster Universities Osteoarthritis) scores compared to baseline, with a greater magnitude of improvement in physical function and total symptoms when compared to placebo. Hyal-Joint was found to improve several markers of quality of life in the study as well.<sup>[2]</sup> Oral supplementation with Hyal-Joint resulted in a decrease in synovial effusion and occasional pain when compared to other treatment.<sup>[9]</sup> Three-month supplementation with Hyal-Joint improved joint mechanics and muscle function (determined through isokinetic testing), promoting increased comfort and joint mobility.<sup>[10]</sup> Animal studies have yielded promising results suggesting that Hyal-Joint supports joint tissue at the cellular level<sup>[11]</sup> and reduces synovial effusion.<sup>[12]</sup> Hyal-Joint was found to lower levels of prostaglandin E2 (PGE2) in human fibroblasts cells which, in turn, supports eicosanoid balance in the body.\*<sup>[13]</sup>

**Hesperidin** A citrus bioflavonoid that has been studied for its effect on cytokine balance, hesperidin (HES) is often combined with other therapeutic agents.<sup>[14]</sup> Research suggests that oral HES can support joint health; when administered, it significantly improved all clinical parameters measured,<sup>[15]</sup> suppressed clinical scores, and improved histological features in the animal model.<sup>[16]</sup> Hesperidin administration was associated with the suppression of T-lymphocyte proliferation and IL-2 production; downregulation of IL-1, IL-6, and TNF-alpha; and amelioration of pathological changes in a targeted rat population.\*<sup>[17]</sup>

**Xanthohumol** Hops are used traditionally to promote relaxation and healthy mod.<sup>[18]</sup> However, current research suggests that hop extract, particularly xanthohumol (XN), helps support eicosanoid and cytokine balance and joint health.<sup>[19-22]</sup> Specifically, XN was found to be superior to other hops-derived compounds (including isoxanthohumol) for inhibiting hyaluronic acid export, inhibiting proteoglycan and collagen loss, and supporting cytokine balance in bovine chondrocytes.<sup>[20]</sup> XN appears to suppress production of nitric oxide, IL-1 $\beta$ , and TNF- $\alpha$ ; induce nuclear translocation of Nrf2; and increase cellular glutathione.<sup>[23]</sup> Furthermore, XN appears to confer additional support for cytokine balance by downregulating cellular toll-like receptor 4 (TLR4) protein content.<sup>[24]</sup> Joint HA contains a concentrated extract of xanthohumol.\*



Living Health Integrative Medicine, LLC

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1833 Forest Dr. Suite A

Annapolis, MD 21401 410.216.9180

\*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.



## **Supplement Facts**

Serving Size: 1 Capsule Servings Per Container: 60

Amount Per Serving %Daily Value

SynovX Performance Proprietary Blend 490 mg \*\* Hesperidin (from *Citrus sinensis*)(fruit), Hyal-Joint<sup>®</sup> (proprietary natural complex rich in high-molecular–weight hyaluronic acid, other polysaccharides, and collagen), and xanthohumol (from *Humulus lupulus*)(hop cones)

\*\* Daily Value not established.

Other Ingredients: HPMC (capsule), dicalcium phosphate, ascorbyl palmitate, silica, and medium-chain-triglyceride oil.

Hyal-Joint<sup>®</sup>® Hyal-Joint<sup>®</sup> is a registered trademark licensed by Bioiberica, S.A.

### Directions

Take one capsule twice daily, or as directed by your healthcare practitioner.

Consult your healthcare practitioner prior to use. Individuals taking medication should discuss potential interactions with their healthcare practitioner. Do not use if tamper seal is damaged.

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### **Does Not Contain**

Wheat, gluten, corn, soy, dairy products, fish, shellfish, peanuts, tree nuts, egg, ingredients derived from genetically modified organisms (GMOs), artificial colors, artificial sweeteners, or artificial preservatives.

\*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.

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