



Nature's Premier Collagen & Hyaluronic Acid

PRODUCT GOAL:

To provide highly absorbable hydrolyzed collagen type II (approx 60%), chondroitin sulfate (20%), and hyaluronic acid (10%) derived from a naturally occurring source for individuals looking to support healthy skin function and appearance, promoting healthy aging effects, and supporting joint health and conditions associated with joint discomfort. With a patented process, BioCell Collagen II was developed as a molecularly optimized ingredient that could be easily absorbed by the body.

SUGGESTED USE:

Take 1-2 grams daily in divided doses with or without meals with 8-10 oz. of water.

KEY ACTIVE COMPONENTS:

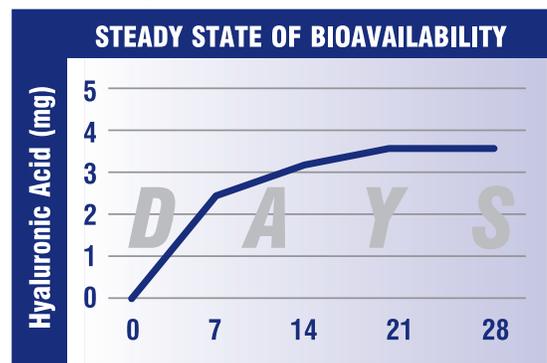
BioCell Collagen II contains highly efficacious and naturally occurring levels of Hyaluronic acid (HA sometimes called hyaluronan), depolymerized chondroitin sulfate (smaller molecules which means a higher absorption rate to users), protein (hydrolyzed collagen type II), and cartilage matrix glycoprotein. (A certificate of analysis that can confirm the exact composition of this ingredient can be provided).

KEY PRODUCT HIGHLIGHTS/BULLETS:

- Hydrolyzed and denatured (modified) to low molecular weight compounds that increase bioavailability and absorption into bloodstream after an oral dose. Other

native or undenatured products DO NOT have this high absorption rate due to their larger molecule size.

CLINICAL STUDY DEMONSTRATES: significant increase of HA in the human body after ingestion of this unique collagen II



Source: SIBR Inc. 2003

- BioCell Collagen II has been awarded four United States Patents (US patent #6,025,327, #6,323,319, #6,780,841, and #7,091,180) for the manufacturing and various uses thereof. Other US and foreign patents pending.
- Supports healthy joint function by strengthening cartilage and the joint structure*
- Improves joint comfort associated with sore and stiff joints.*
- May help promote joint cushioning *
- May help support proper inflammatory function due to its chondroitin sulfate content.*
- Supports healthy skin function by increasing

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skin hydration.

- May boost skin elasticity and reduce the appearance of wrinkles by promoting skin repair and support.
- May possibly support proper wound healing due to its potent hyaluronic acid content.
- May help improve the appearance of skin, hair, and nails because it naturally contains key “beauty” amino acids like hydroxyproline.

LABEL COPY EXAMPLES:

Healthy Aging Formula

BioCell Collagen II is a patented natural ingredient that provides a naturally occurring matrix of hyaluronic acid (10%), depolymerized chondroitin sulfate (20%), and collagen type II (60%). BioCell Collagen II contains key constituents that can help support healthy skin and joint function to combat the degenerative effects of aging.

Joint Health Formula

BioCell Collagen II is a patented all-natural ingredient that provides highly absorbable collagen type II, chondroitin sulfate and hyaluronic acid to promote joint health and improve joint comfort.

Skin-Targeted Formula

BioCell Collagen II is a patented all-natural ingredient that provides highly absorbable collagen type II, chondroitin sulfate and hyaluronic acid to support skin from within and to maintain a healthy and youthful appearance. Hyaluronic acid (HA) and collagen are vital structural components of skin that decline as we age, and are responsible for the skin’s moisture, suppleness, and elasticity.

WARNING:

Pregnant and nursing women should consult a physician before using.

HISTORY/BACKGROUND:

BioCell Collagen II has been on the market since 1997 and has been effectively used by millions of people since then. Even though research exists on hydrolyzed collagen, BioCell Technology has initiated two double blind placebo controlled studies to confirm the proven effects of this ingredient. In the village of Yuzurihara, Japan (also known as “village of long life”), there seems to exist a population that has the longest age span in the world. Featured on ABC television, this village had one common thread—maintenance of hyaluronic acid (HA) levels in their bodies. The people of this village were living to old ages without wrinkles and common age-related diseases. In fact, Bill Sardi, author of the new book, *HA: How to Live 100 Years without Growing Old* (available from Here and Now books), discusses this very phenomenon.

HA and collagen have been studied by scientists for over 40 years. It is a key component to many normal bodily functions and has hundreds of research studies showing its value in skin and joint health.

STUDIES/PROPERTIES:

Skin Health

Collagen is one of the most important substances required for the proper functioning of skin. It provides structural support to the skin thereby increasing elasticity and skin tone. Hyaluronic acid is also present in skin tissue including both the dermis (interior) and epidermis (exterior). It supports healthy skin function. In one study published in the Journal of Cellular Physiology in 1998, HA was shown to help proliferation of healthy skin cells in a collagen matrix.

Properties: HA enhances skin moisture (hydration) and functions as a lubricant between the collagen matrixes of the skin. Since it is a component of the skin structure and declines with age, supplementation can insure adequate levels remain in the skin to

support its healthy appearance and function. A bioassay report demonstrated the effectiveness of BioCell Collagen II in inhibiting hyaluronidase. The hyaluronidase enzyme degrades hyaluronic acid (HA), a glycosaminoglycan extracellular matrix constituent which can contribute to signs of aging on the skin. HA is found in varying levels in the dermis. Variations in levels account for natural skin alterations associated with aging, such as decreased turgidity, less support of microvessels, wrinkling, and altered elasticity. By inhibiting hyaluronidase, levels of HA in the skin can increase, reducing wrinkling while enhancing natural collagen production. HA has been shown to promote fibroblast proliferation. Since fibroblasts are an important source of collagen, inhibition of hyaluronidase may enhance HA levels and increase collagen production.

Wound Healing

Hyaluronic acid has been shown to support wound healing, mainly as a topical application. In a study entitled "The Properties of Hyaluronan and Its Role in Wound Healing" published in 2001, HA is discussed as having wound healing properties. It seems to work through its water retaining properties.

Joint Health

There are 14 different types of collagen found in the body but only type II is the most abundant in the joint matrix. BioCell Collagen II and its constituents can have a powerful impact on joints and conditions associated with abnormal joint function. One study published in 2000 entitled "Role of Collagen Hydrolysate in Bone and Joint Disease", reviews how collagen can be a powerful tool in helping with osteoarthritis and even osteoporosis. The researchers of this study state "Its high level of safety (hydrolyzed collagen) makes it attractive as an agent for long-term use in these chronic disorders." A placebo-controlled

joint efficacy study directed by Dr. Eric Sheldon, a clinical research investigator at Miami Research Associates, examined sixteen men and women with OA who received a BioCell Collagen II supplement for an eight-week period. Sheldon said the data revealed that daily consumption of BioCell Collagen II led to clinically meaningful improvements that were significantly superior to the group receiving placebo supplements. "This preliminary study suggests that BioCell Collagen II® has promise in the management of chronic OA symptoms," said Sheldon, a rheumatologist and voluntary rheumatology instructor at the University of Miami School of Medicine. "We used a symptom assessment tool that is used routinely in OA drug studies and the results are encouraging."

Properties:

The components of BioCell Collagen II including collagen type II, chondroitin sulfate, and hyaluronic acid can support proteoglycans and glycosaminoglycans (GAG's) in the joint matrix thereby increasing synovial (joint) fluid and supporting cartilage synthesis in the joints. This can enhance a joint's shock absorption capabilities as well as lower the chance for deterioration.

HA specifically is a key nutrient in joint health. In a review by Moskowitz from Case Western Reserve University entitled "Hyaluronic acid supplementation" and published in 2000, he states that "Hyaluronan preparations have been shown to decrease pain and increase function in patients with osteoarthritis of the knee."

Properties:

HA seems to work by the restoration of more normal synovial fluid with improved viscoelasticity, effects on cartilage biosynthesis and degradation, anti-inflammatory effects, and direct analgesic effects.

NUTRIENT SAFETY:

Shown to be very safe with no adverse effects. A study published in Food and Chemical Toxicology has confirmed the safety of BioCell Collagen II. The research was comprised of two oral toxicity studies involving acute and subchronic tests. Test subjects exhibited no toxicity, even at 33 times the recommended dose, as observed by a review of a variety of biomarkers and histopathological examinations. The prestigious journal - which only publishes high-quality research to assist in health and safety decisions - disclosed that the wide variety of toxicity studies performed on the ingredient affirmed BioCell Collagen II to be safe for use as an oral health food supplement.

NUTRIENT INTERACTION / CONTRAINDICATION:

Based on its properties its proven safety in research studies, NO interactions or contraindications are known at this time.

FDA INFORMATION:

No claims can be made regarding BioCell Collagen II's direct effects on treatment of osteoarthritis or other joint diseases. No claims can be made regarding this ingredient that it may help heal, treat or mitigate any diseases. A structure function claim stating that hyaluronic acid "Promotes skin health" and "Joint Comfort & Mobility" has been filed with the FDA. BioCell Collagen II is considered a dietary ingredient within the meaning of DSHEA.

THERAPEUTIC EQUIVALENTS:

Undenatured or native collagen is another similar type product but it does not have the same powerful effects of BioCell Collagen II. In fact, it is poorly absorbed due to its higher molecular weight. It also does not have the

same hyaluronic acid content as BioCell Collagen II does. The doses of undenatured collagen type II are very low and are not nearly as efficacious as the dosages of BioCell Collagen II.

PATENTS:

US Patent #6,025,327– Hydrolyzed collagen type II and use thereof US Patent #6,323,319 – Method of making hydrolyzed collagen type II US Patent #6,780,841 – Hyaluronic acid and chondroitin sulfate based hydrolyzed collagen type II and method of making same US Patent #7,091,180 – Hyaluronic acid and chondroitin sulfate based hydrolyzed collagen type II and method of making same Other US and foreign patents pending.

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