

NOT ALL COLLAGENS ARE ALIKE!



Feed Your Skin and Joints*



BioCell Collagen for Joint, Skin and Connective Tissue Health

Intrinsic aging produces many physiological changes that affect how the body looks and feels which depends, at least in part, upon the structural integrity of the connective tissue in joints, skin, tendons, ligaments, bones, and blood vessels. Connective tissue, which is primarily composed of collagen, glycosaminoglycans (GAGs), and proteoglycans, binds all of the organs and other tissues of the body. Aging gradually weakens the connective tissue by depleting collagen and GAG accumulation, and by UV initiated photo-damage and other lifestyle risk factors such as smoking or chronic exposure to environmental pollutants.

Nutraceuticals have been used for several decades to ameliorate the physiological degradation of connective tissue, associated with a decline in skin firmness and elasticity, and joint comfort and mobility due to aging. Among these nutraceuticals is branded healthy aging dietary supplement ingredient called BioCell Collagen developed and distributed by BioCell Technology, LLC of Irvine, CA USA. Multiple human clinical trials including safety, efficacy, and bioavailability studies have demonstrated that oral ingestion of BioCell Collagen promotes joint health and skin beauty.*

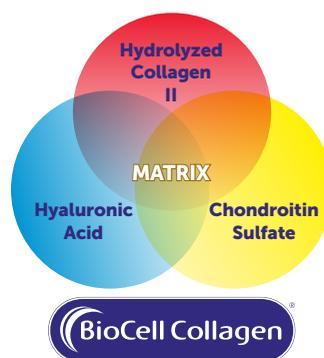
BioCell Collagen®, it is a clinically studied hydrolyzed chicken sternal cartilage extract ingredient comprised of a complex matrix of primarily collagen type II peptides, chondroitin sulfate and hyaluronic acid.*

A COMPREHENSIVE APPROACH TO HEALTHY AGING

Many internal and external factors influence the pace and effects of aging. The progression of aging is linked to steady deterioration of the extracellular matrix (ECM) in connective tissue, which results from decreased synthesis and increased degradation of molecules essential for connective tissue integrity.*

Since collagen and GAGs such as chondroitin sulfate (CS) and hyaluronic acid (HA) are the major molecular constituents of the ECM, their replenishment could help counteract various undesirable effects of aging. These effects include overall bodily weakness, vulnerability to injury, and visible facial changes. However, there are very few science-backed dietary supplements on the market that address the loss of these structurally essential molecules. BioCell Collagen comprehensively addresses the loss of these molecules by providing both collagen and GAGs.*

UNIQUE SYNERGISTIC INGREDIENT



THE UNIQUE MOLECULAR NATURE OF BIOCELL COLLAGEN®

BioCell Collagen is derived exclusively from hormone and antibiotic free chicken sternal cartilage, which is a rich source of type II collagen, hyaluronic acid, and chondroitin sulfate, and closely mirrors the composition of human articular cartilage. Cartilage is a very clean and desirable source because it is free from blood supply and it is devoid of lymphatics, blood vessels, and nerves unlike other animal parts (e.g., cow or pig skin and bones) which most collagen ingredients are derived. The source is of importance because many impurities are carried

through the blood supply, thus obtaining exclusively from cartilage eliminates the risk of potential contamination. In the dietary supplement industry, when collagen is marketed without denoting the type, it usually means the collagen product is made of Types I and III collagen, also known as gelatin. Collagen Types I and III coexist in skin and bone tissues. Collagen type II is rare and more valuable because it is predominantly found in cartilage where it naturally coexists with hyaluronic acid and chondroitin sulfate in a blood-free environment.*

BioCell Collagen is manufactured via a patented process that

includes filtration, purification, concentration, hydrolysis, and sterilization, to ensure consistent quality and safety. This process reduces the size of its molecules to a specific range thereby increasing the bioavailability of the bioactive constituents found within the unique biomolecular composition of BioCell Collagen. The synergy among BioCell Collagen's three biomolecular matrix constituents are unique and cannot be found in any other collagen ingredients or blends.*

THE SCIENTIFIC STUDIES OF BIOCELL COLLAGEN

The ingestion of BioCell Collagen is thought to stimulate chondrocytes and play a role in the renewal mechanism of cartilage and to stimulate fibroblasts for skin renewal thus supporting all three major collagen types (I, II, and III). Moreover, BioCell Collagen was shown to have a concentration-dependent inhibition of hyaluronidase, the enzyme that degrades hyaluronic acid, which can contribute to signs of aging on the skin and loss of viscoelasticity of joint synovial fluid. BioCell Collagen also attenuates deleterious changes in biomarkers including creatine kinase, lactate dehydrogenase, and C-reactive protein adding further clues into its mechanism of action.*

In a newly published randomized, double-blind, placebo-controlled clinical trial, 500 mg. of BioCell Collagen® taken twice daily was found to visibly reduce common signs of skin aging. This included a measurable improvement in signs of aging in women,



SKIN BEAUTY

Clinically shown to:

- Significantly reduces facial lines and wrinkles*
- Reduce crow's feet*
- Improves skin elasticity*
- Reduce skin dryness*

represented by increased skin elasticity, reduction of crow's feet, and improvement in depth and number of fine lines and wrinkles within 12 weeks of daily use. The study evaluated the use of BioCell Collagen® among 128 women, aged 39-59. All participants entered the study with visible signs of facial aging. The full findings of the peer reviewed study are published in the September/October 2019 issue of Alternative Therapies in Health and Medicine. (Schwartz et al Altern Ther Health Med. 2019 Sep;25(5):12-29.)*

In a randomized, double-blind, placebo-controlled clinical trial; 80 subjects ingested two grams of BioCell Collagen daily for ten weeks. The subject's experienced statistically significant improvements in their ability to engage in physical activities (Schauss et al., 2012¹). These results corroborated the results of another earlier double-blind placebo-controlled trial tested on sixteen people. (Kalman et al., 2004²).*

In a pilot randomized, double-blind placebo-controlled study of BioCell Collagen performed in a study of healthy recreationally active subjects given three grams of BioCell Collagen over a six-week period before an upper-body muscle-damaging resistance exercise challenge. Participants experienced favorable improvements in stress resilience and recovery after bouts of intense resistance exercise without any reported side effects (Lopez et al, 2014³).*



JOINT SUPPORT

Clinically shown to:

- Promote joint comfort & mobility*
- Enhance post-exercise recovery*
- Support skin & joint collagens (type I, II & III)*

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