VALENS

PROFLEX COLLAGEN

Capsules
for supporting joints, bones, cartilage, and other connective tissues

VALENS®

Valens Proflex Collagen

Comprehensive support for joints, bones, and other connective tissues

A preventive and therapeutic approach to maintaining joint health

Carefully selected ingredients help prevent cartilage breakdown, support tissue structure and elasticity, and reduce joint inflammation.

Boswellia Extract

Anti-inflammatory action

Vitamin C

Supports collagen production in the body

Hyaluronic Acid

A natural lubricant and cushioning agent

Native type II collagen

A natural component of cartilage with anti-inflammatory properties

Zinc, Manganese & Copper

Support healthy bones, joints, and connective tissue

Resveratrol

Antioxidant and anti-inflammatory activity

Ingredients and dosing

Active ingredients	Quantity
Boswellia extract	150 mg
vitamin C	80 mg (100 % NRV)
hyaluronic acid	100 mg
native type II collagen	40 mg
resveratrol	12 mg
zinc	5 mg (50 % NRV)
manganese	1 mg (50 % NRV)
copper	0,5 mg (50 % NRV)

Recommended daily dose

- **1 capsule**
- Anytime in a day, with enough liquid
- Regular consumption is recommended

Target groups:

- athletes
- elderly
- people with mild joint pain
- people with early joint changes

The Joint – Structure & Composition [1]

A joint is an anatomical structure where bones meet. Its primary role is to enable movement while maintaining the body's stability—without joints, the human skeleton would be rigid and immobile.

Healthy Joint – A Complex System, composed of several interconnected parts:

- **Articular cartilage,** a smooth, elastic tissue covering joint surfaces, cushioning pressure and reducing friction between bones.
- **Joint capsule,** a connective tissue arount the joint, providing protection and stability.
- **Synovial membrane,** the inner layer of the joint capsule that produces synovial fluid.
- **Synovial fluid,** a thick, viscous fluid that lubricates the joint, reduces friction, and nourishes the cartilage.
- **Connective tissues –** ligaments (connect bones) and tendons (connect muscles to bones).

Key Components of Cartilage

- **Collagen –** a vital protein in cartilage and connective tissues that provides flexibility and strength. In joints, type II collagen is predominant.
- **Hyaluronic acid –** a major component of synovial fluid, acting as a natural lubricant and shock absorber.
- **Glucosamine and chondroitin –** natural building blocks of cartilage, involved in its repair and structural maintenance.

Joint - key challanges [2]

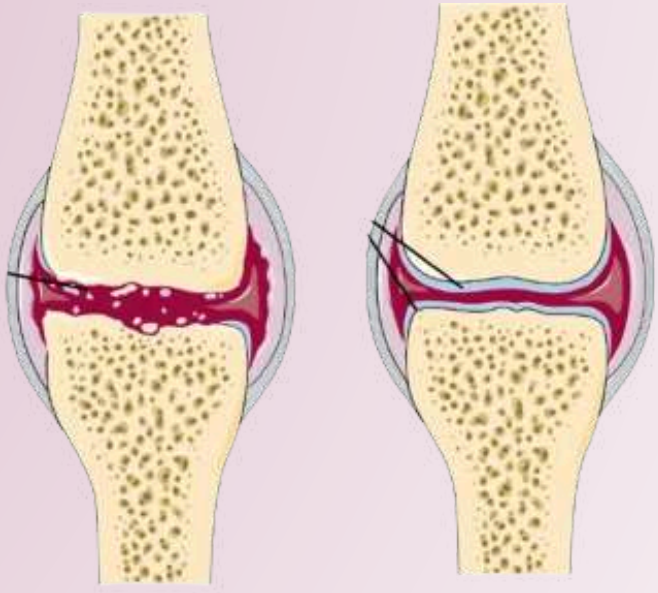
With age, repeated stress, or injury, cartilage begins to wear down, synovial fluid levels decrease, and inflammatory changes can occur. This leads to a condition known as osteoarthritis.

Osteoarthritis is characterized by the gradual deterioration of the joint, where the articular cartilage becomes mechanically worn and thinner, and the underlying bone thickens. Damaged tissue triggers a mild but chronic inflammatory response, during which locally released cytokines further accelerate cartilage breakdown and changes in connective tissue.

Signs of Joint Degeneration Include:

- Pain during movement or even at rest
- Joint stiffness, especially in the morning
- Swelling and a feeling of instability
- Reduced mobility

The main goal in managing joint issues or treating osteoarthritis should be to reduce inflammation and support the repair and regeneration of cartilage and connective tissues.



OSTEOARTHRITIS HEALTHY JOINT

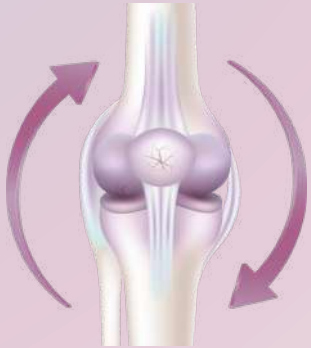
Collagen [3, 4[

Collagen is the most abundant protein in the human body, making up around **30% of total protein content**. It is a key structural component of all connective tissues. Several types of collagen exist, classified by their structure—with five types being most important.

Type I collagen accounts for about 90% of all collagen in the body, and is most abundant in **the skin**. **Type II collagen** is the main component of **joint cartilage.**

There is a well-established link between a lack or degradation of type II collagen and the development of various bone and joint conditions.

Type II collagen is a large protein composed of three peptide chains twisted into a triple helix. In dietary supplements, it is available either in hydrolyzed form or as native collagen.

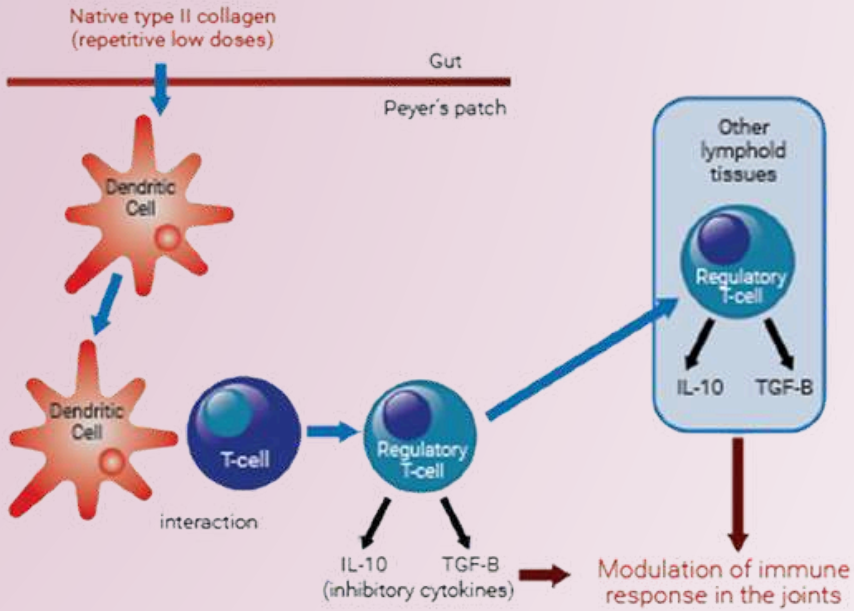


Hydrolyzed collagen	Native collagen
• Large collagen molecules are broken down into smaller fragments (peptides) • These peptides have a lower molecular weight, which allows them to pass more easily through the small intestine and circulate in the body • They accumulate in cartilage and help stimulate its regeneration • The effects are not yet fully researched, and high doses are required to see potential benefits • The molecular structure is disrupted, which weakens its interaction with target cells	• Preserved triple-helix structure that remains intact all the way to the intestine • Acts on joint inflammation by modulating the local immune response • Triggers an immune mechanism known as oral tolerance • Retains epitopes**, key parts of the molecule recognized by the immune system • *Oral tolerance: an immune response that prevents the body from overreacting to harmless substances (e.g. dietary proteins)* • *Epitopes: small parts of an antigen that are specifically recognized by antibodies or T-cells. Only substances that trigger an immune response contain epitopes.*

Mechanism of action [5]

Native type II collagen helps reduce autoimmune reactions against the body's own cartilage collagen.

- After ingestion, native type II collagen reaches the immune cells in the gut, specifically in the Peyer's patches. There, dendritic cells present the collagen molecule to T-cells, **activating the immune response.**
- This triggers the transformation of helper T-cells into regulatory T-cells, which then circulate through the bloodstream. Once they reach joint tissue, they recognize **type II collagen** as their target and begin releasing bioactive compounds that help **suppress the local immune response**, thereby reducing inflammation and related joint pain.
- In the cartilage, regulatory T-cells inhibit the inflammatory cascade triggered by autoantigens—substances released during cartilage breakdown.



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Collavant® n2

The native type II collagen used in supplements is typically sourced from **chicken cartilage.** Thanks to its stable **triple-helix structure**, it remains intact during digestion and retains its epitopes—the key molecular regions recognized by the immune system.

It is well established that native type II collagen acts on the immune system, rather than directly contributing to cartilage regeneration. Because of this immune-modulating mechanism, only a very low dose is needed to trigger a response.

40 mg

Clinical studies

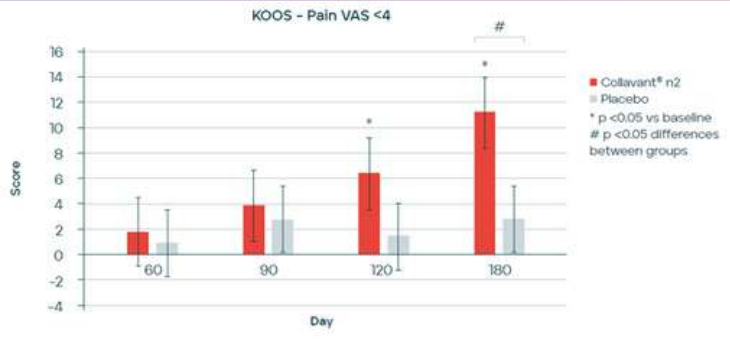
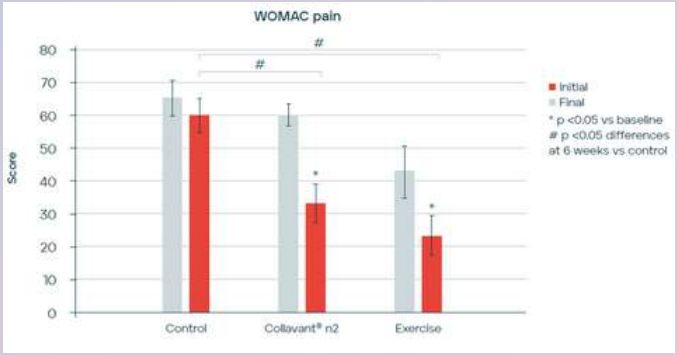
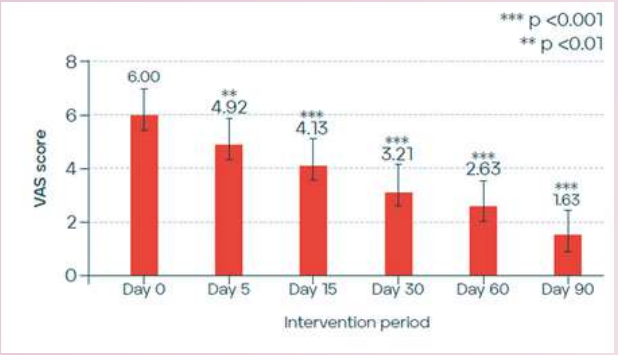


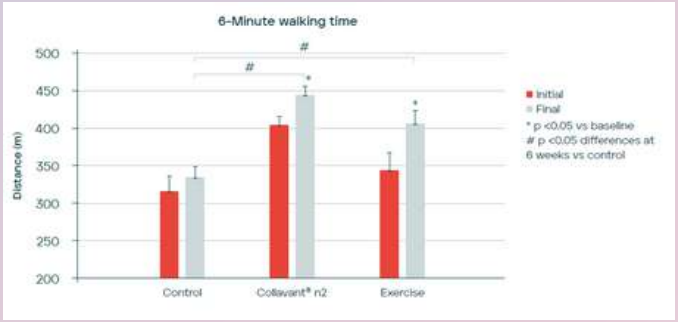
Figure 6: Time to recover from joint discomfort following an exercise protocol (cycling in the air). Results are expressed as a ratio difference versus baseline.

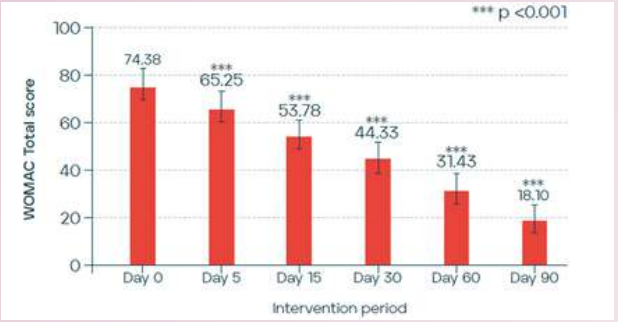
In a clinical study, individuals who took Collavant® n2 (40 mg/day) experienced s**tatistically significant improvements** compared to placebo, including **faster recovery from joint discomfort after exercise** (by day 180), as well as **better joint function and quality of life [6].**

Clinical studies









Improves joint function and comfort in women with knee osteoarthritis within just six weeks, supporting overall mobility [7].

When taken orally in combination with Boswellia serrata, Collavant® n2 significantly reduced osteoarthritis symptoms in just five days [8].

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Hyaluronic Acid [9]

Hyaluronic acid (HA) is a high-molecular-weight glycosaminoglycan (GAG), naturally found in **synovial fluid** and **joint cartilage**.

- It binds large amounts of water, contributing to hydration and lubrication within the joint.
- Due to its high molecular weight and extended chain structure, HA is highly viscous, playing a key role in maintaining elasticity and cushioning mechanical stress in the joints.
- Beyond its mechanical functions, HA also supports cellular signaling and *anti-inflammatory activity.

**In intestinal cells, it modulates the expression of inflammation-inhibiting proteins like SOCS3 and pleiotrophin via the TLR4 receptor. This helps reduce inflammation and relieve joint pain.*

The effectiveness of hyaluronic acid in relieving joint pain has been demonstrated in numerous clinical studies. A formulation with sodium hyaluronate has also shown clinically proven efficacy in knee osteoarthritis [10].

Sodium hyaluronate is the sodium salt of hyaluronic acid. It is widely used in orthopedics, cosmetics, and dietary supplements and is considered one of the most effective forms of HA, known for its water solubility and stability.

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Boswellic acid [11]

Boswellia ***(Boswellia serrata)*** is a plant well known for its **anti-inflammatory** properties. Its key active compound is **boswellic acid**, particularly acetyl-11-keto-β-boswellic acid (AKBA), which inhibits the enzyme 5-lipoxygenase—a crucial player in the formation of leukotrienes, molecules involved in chronic inflammation.

Boswellic acid has been clinically shown to reduce inflammation, stiffness, and joint pain, making Boswellia a valuable natural aid in managing osteoarthritis and other inflammatory joint conditions.

Based on current evidence, a recommended dose of Boswellia or its extract is 100–250 mg daily, taken over at least four weeks.

- Helps reduce joint pain caused by inflamation
- Improves joint flexibility and mobility
- Eases movement-related discomfort
- Supports the production of synovial fluid
- Gentle on the stomach

Resveratrol [12]

Resveratrol is a natural polyphenol found in grape skin, red wine, berries, and certain nuts. It has a wide range of pharmacological and biological effects, with **anti-inflammatory activity** mediated through multiple molecular pathways.

- Regulates inflammatory responses and immune function
- Enhances the body's antioxidant defense mechanisms
- Reduces cytokine release and oxidative stress

Thanks to these effects, resveratrol shows strong potential in managing chronic inflammation, including joint-related conditions.

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Other nutrients

Vitamin C

- Contributes to normal collagen formation for the normal function of bones and cartillage.
- Contributes to normal function of the immune system.
- Contributes to the protection of cells from oxidative stress.

Zinc

- Contributes to normal protein synthesis.
- Contributes to the maintenance of normal bones.
- Contributes to normal function of the immune system.

Copper

- Contributes to maintenance of normal connective tissues.
- Contributes to the protection of cells from oxidative stress.

Manganese

- Contributes to the maintenance of normal bones.
- Contributes to maintenance of normal connective tissues.

Why Valens Proflex Collagen?

- Comprehensive support for joints, bones, and connective tissue.
- A rich formulation with carefully selected ingredients.
- Contains **Collavant® n2**, type II native collagen, clinically proven to support joint health.
- Enriched with essential **vitamins and minerals** that contribute to healthy joints and bones.
- Includes natural extracts with proven **anti-inflammatory properties.**
- Excellent **quality-to-price ratio.**
- Backed by **GMP and IFS certifications** for full ingredient traceability and product safety.

GMP CERTIFIED

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IFS CERTIFIED

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VALENS®

Science-backed nutrition for healthy living

VALENS INT. D.O.O.

Pod jelšami 18, 1218 Komenda, Slovenija, EU

valens@valens.si

+386 59 334 022

www.valens-health.com