

# Collavant n2

## Native (undenatured) type II collagen

Use: joint health Dose: 40mg/day Application: dietary supplements

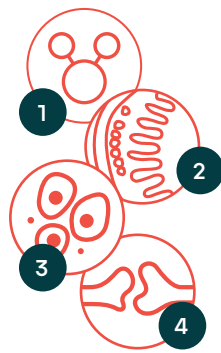
Collavant n2 is a next **generation collagen** for joint health innovation. A **trusted source** of quality, science-backed **native (undenatured) type II collagen** extracted from chicken sternum, it is manufactured by Bioiberica through a strictly controlled process that preserves the active parts of the molecule.

### Type II collagen and the role of the immune system in joint health

Type II collagen is the **main structural protein in the cartilage**, providing tensile strength and toughness to the tissue. Some joint disorders involving inflammation and cartilage degradation are caused by an **immune response against endogenous type II collagen** in the body. Orally taken in its native form, a low dose of type II collagen helps to modulate this immune response.

### Native type II collagen: mechanism of action

Native type II collagen works at a low dose (40mg/day) through a **mechanism of action called Oral Tolerance**, which consists of a diminished immune response to a previously fed antigen.



### Oral Tolerance comprises the following stages:

1. Native (undenatured) type II collagen reaches the intestine
2. It interacts with the Peyer's patches in the intestine, which are responsible for immune surveillance
3. It turns off the immune response against endogenous type II collagen
4. It reduces collagen degradation in the joint, supporting joint health

## Stay one step ahead with Collavant n2

Push the boundaries of innovation to deliver on-trend mobility products.

- **New generation collagen**
- **Low daily dose**
- **Science-backed:** efficacy demonstrated in four scientific studies
- **From a trusted source:** 100% sourced and manufactured in Europe

### 1. Effect on joint structure

Collavant n2 reduced joint degradation in a rabbit model of osteoarthritis (evaluating macroscopic changes).

Sifre, V. et al. Osteoarthritis Cartilage, 2020;28:S206.

Groups	Treatment	Improved cartilage appearance	Improved synovial membrane
0	None	-	-
1	CS + Gl + HA	+	+
2	CS + Gl + HA + Cn2	++	++

Fig 1. Summary of the macroscopic results obtained in the different study groups.

**Key**  
 CS: Chondroitin Sulfate                      HA: Hyaluronic Acid  
 Gl: Glucosamine Hydrochloride            Cn2: Collavant n2.

### 2. Reduces IL-1β levels

Collavant n2 reduced IL-1β plasma levels in a rat model of induced OA, evoking similar effects to glucosamine. IL-1β is a pro-inflammatory cytokine involved in the body's inflammation pathways.

Mannelli, L. D. C. et al. Osteoporos. Int. 2015;26:184.

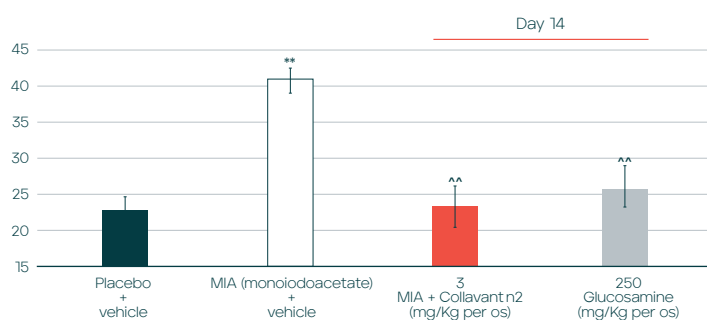


Fig 2. IL-1β plasma levels in an animal model of OA. Comparison of treatments (red and grey) with a healthy control (black) and a disease control (white).

### 3. Improves knee discomfort and function

Collavant n2 significantly improved pain and knee function in individuals with knee osteoarthritis when combined with acetaminophen.

Bakilan, F. et al. Eurasian J. Med. 2016;48:95-101.

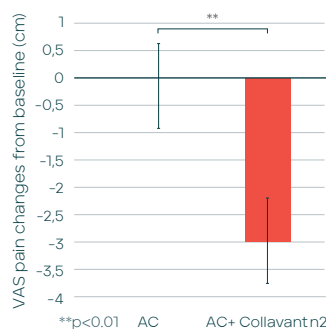


Fig 3. VAS pain changes with Collavant n2 supplementation versus control group.

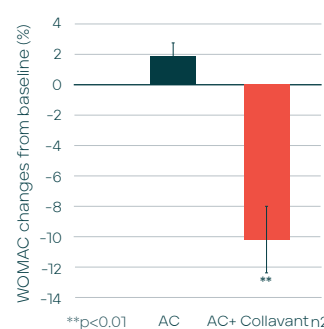


Fig 4. Total WOMAC evolution evaluating knee function with and without Collavant n2 versus baseline.

These statements have not been evaluated by competent food authorities. The product is not intended to diagnose, treat, cure, or prevent any disease. This information is only for business-to-business use and not meant to be addressed to final consumers.

#### About Bioiberica

Bioiberica is a global Life Science company with more than 45 years' experience in the identification, extraction and development of biomolecules of high biological and therapeutic value for the pharmaceutical and nutraceutical industries. Bioiberica has consolidated its position as an expert in joint health and mobility thanks to a constant commitment to science and research.

To innovate in the joint health market using Bioiberica's Collavant n2 native type II collagen, contact us today.

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