

Phytonutriance®

Natural antioxidant solutions with a proven efficacy

A Natural Ingredient for Joint Care

Chondractiv™
by Phytonutriance®



- > Chicken cartilage extract powder
- > Contains three effective active ingredients
- > Improves joint mobility
- > Patented ingredient
- > Supported by human clinicals and bioavailability assay
- > Non-allergenic

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THE SOLUTION FOR HEALTHY JOINTS

By the year 2020, the U.S. population 65 and older is projected to more than double, from 34 million to 78 million people.

*Independence of Older Americans, 1999;
Alliance of Ageing Research*



Joint mobility, a health problem worldwide

Joint mobility issues are very common worldwide, affecting **millions of individuals**, specifically elderly and overweight people. As obesity incidence grows and the population age increases over the next few decades, the need for **alternative joint relief solutions** will increase and become more important.

Origin of ChondrActiv™

Diana Naturals is a **major European supplier of natural poultry ingredients** and has decided to take advantage of its 25 years of expertise in the poultry industry to develop a unique process of extraction for a joint health ingredient:

- a **healthy and safe ingredient** from natural origin
- an ingredient with **full traceability** and without sanitary issues.
- an **eco-friendly ingredient** that does not destroy marine ecosystems

Diana Naturals owns the proprietary extraction process for the cartilage and the product composition in Europe and the USA (2 patents).

ChondrActiv™ Key Features

- 100% natural
- High level of type 2 collagen
- Also contains chondroitin sulfate and hyaluronic acid
- Proprietary, patented ingredient
- Supported by human clinical trials and a bioavailability assay
- Non-allergenic
- Highly stable
- Good water solubility
- Colorless and low flavor
- Food grade

A non-allergenic ingredient

Thanks to its chicken origin, ChondrActiv™ does not contain any allergenic component. There is no risk of finding traces of allergens that might not have been removed by the harsh processing required by other sources (e.g. crustacean origin)

“ **Nearly 400 million people** worldwide live with **bone and joint problems** ”

World Health Organization

Frequently Asked Questions

What is ChondrActiv™?

ChondrActiv™ is a standardized, patented joint health ingredient containing a combination of collagen type 2, chondroitin sulfate and hyaluronic acid. This combination is proven to improve joint mobility.

Where is ChondrActiv™ produced?

ChondrActiv™ is extracted from chicken cartilage, and is produced in France, in a NF EN ISO9001:2000 certified facility.

How can ChondrActiv™ help to improve joint mobility?

ChondrActiv™ has a high (55%) collagen type 2 content. It is an essential building block required to maintain the cohesion of the cartilaginous matrix (50% of the solid part of the joint cartilage is constituted by type 2 collagen fibers). The 12% chondroitin sulfate and 0.5-1.5% hyaluronic acid contribute to the permanent renewal of proteoglycans, a major biochemical component of joints.

Is ChondrActiv™ effective?

Clinical trials on 37 people suffering from joint issues have demonstrated that ChondrActiv™ decreases the consumption of non-steroidal anti-inflammatory drugs (NSAID's) by 73% and improves mobility and quality of life. These double-blind, placebo-controlled trials were performed with a 1500 mg ChondrActiv™ daily intake against placebo for three months, with additional testing after a three month period.

Who should take ChondrActiv™?

ChondrActiv™ is recommended for anyone who is looking to maintain an active lifestyle.

Can ChondrActiv™ be used with other joint ingredients?

ChondrActiv™ is proven to be effective alone but may also be used in combination with other joint care ingredients for synergistic effects.

Is ChondrActiv™ bioavailable?

ChondrActiv™ contains, in a bioavailable form, the three key components of healthy joints. ChondrActiv™ is three times more bioavailable than native cartilage, reaching joints through blood circulation.

What is the daily dosage of ChondrActiv™ recommended?

The clinically studied dosage is 1500 mg of ChondrActiv™ per day. We suggest 500-1500 mg in your product formulation.

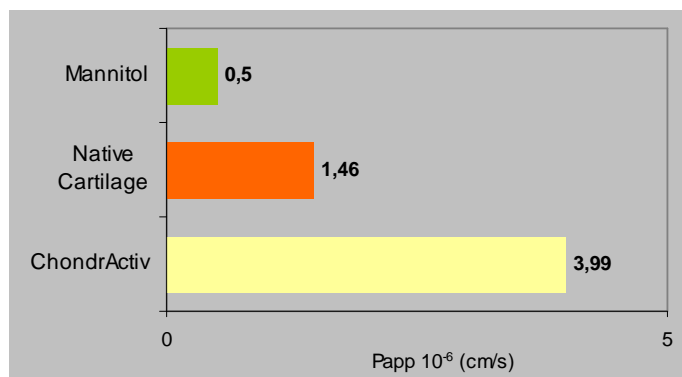
These statements have not been evaluated by the Food and Drug Administration.
This product is not intended to diagnose, treat, cure or prevent any disease.

SUPPORTED BY HUMAN CLINICAL TRIALS

> *In vitro* bioavailability study

The bioavailability of ChondrActiv™ has been evaluated *in vitro*, with a CaCo2 monolayer model. Results are shown below.

ChondrActiv™ delivers an **apparent permeability of 3.99×10^{-6} cm/s**, clearly above 2×10^{-6} cm/s, which is the usual value for a bioavailable product. Bioavailability of ChondrActiv™ is about **3 times higher than native cartilage**.

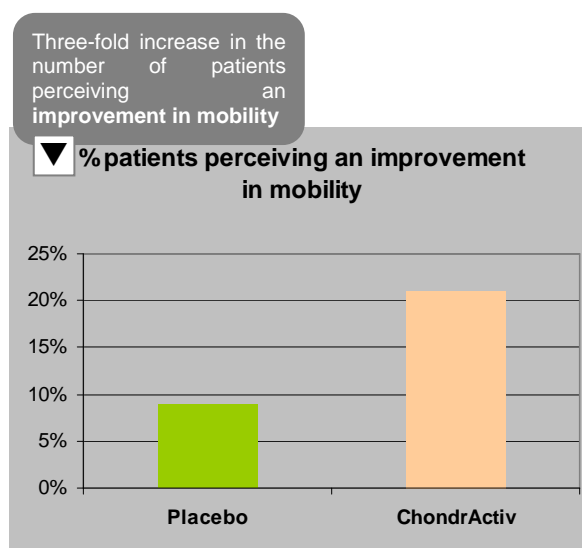
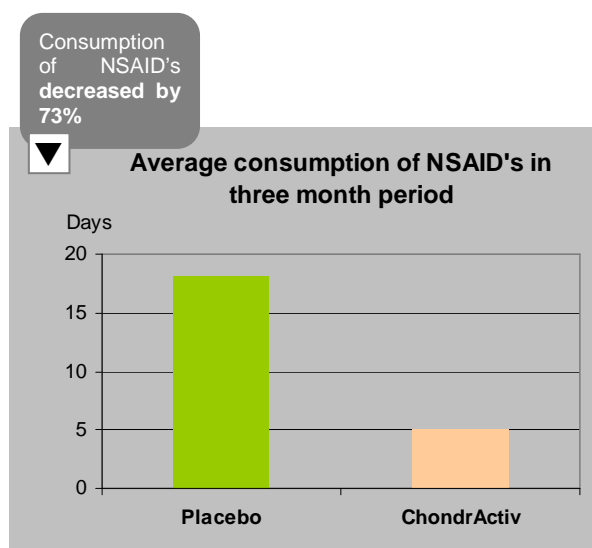


> Human clinical trials

Diana Naturals double-blind placebo-controlled human trial

37 volunteers complaining about **joint pain for at least six months** were included in the study. The test was performed over a **nine month total period**, divided into a first test period of three months (daily intake of **1500 mg of ChondrActiv™** or placebo), followed by a three month rest period and then a second three month test period (daily intake of **1500 mg of ChondrActiv™** or placebo).

Evaluation of **mobility** and **non-steroidal inflammatory drugs (NSAID) consumption** was done under the supervision of a rheumatologist.



Additional technical information and references available upon request.