ArthroLexin™

Joint & Cartilage Health

What is ArthroLexin™?

ArthroLexin™ (UP1015) is a proprietary standardized composition comprised of extracts from Scutellaria baicalensis, Morus alba and Acacia catechu. Its constituents have been clinically proven to alleviate joint discomfort, reduce stiffness, improve mobility and protect cartilage. *

What Makes ArthroLexin™ Unique*?

- ArthroLexin™ is especially designed to address the complexity and multifactorial nature of joint dysfunction and cartilage loss.
- ArthroLexin™ possesses diverse bioactives targeting multiple pathways in the wear and tear of joint structure and loss of function.
- Besides being a strong antioxidant, it has demonstrated dual COX-LOX modulation, protection of cartilage degradation, suppression of matrix degrading enzymes, and reduction of key inflammatory cytokines.

Key Benefits*

- A potent antioxidant that specifically neutralizes super oxide anion – a free radical generated by normal wear and tear.
- Effectively inhibits cartilage catabolic pathways by modulating COX-1, COX-2, and 5-LOX enzyme activity.
- Has been shown to have cartilage protective properties in ex vivo studies.
- Improves joint range of motion, flexibility and physical function of joints
- Natural substances with history of safe human use in TCM and Ayurvedic medicine
- Extensive in vivo and in vitro safety testing with high margin of safety
- High compatibility in formulating with other joint care ingredients
- Patent protected

Plant Origin

- Derived from the root of Scutellaria baicalensis, root bark of Morus alba and heartwood of Acacia catechu .

Applications*

- Alleviates joint discomfort and stiffness
- Provides protection for joint cartilage
- Improves mobility and range of motion
- Enhances flexibility and physical function

Formulation

Can be used as an active agent alone or formulated with other agents in tablets, capsules, liquids, powders, bars and other delivery systems.

Physical Properties

Brown colored powder easily suspended in water.

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Pre-Clinical Efficacy Data*

Summary of Efficacy of ArthroLexin™

- Anti-discomfort sensitivity activity of compositions in MIA-induced OA model
- Cartilage protection activity of the composition as measured by urine CTX-II
- Improved histological findings as a result of a composition comprised of Morus, Acacia and Scutellaria extracts in MIA-induced OA model
- Unexpected discomfort reduction synergistic activity of a composition UP1015 (ArthroLexin™) comprised of Morus, Acacia and Scutellaria extracts

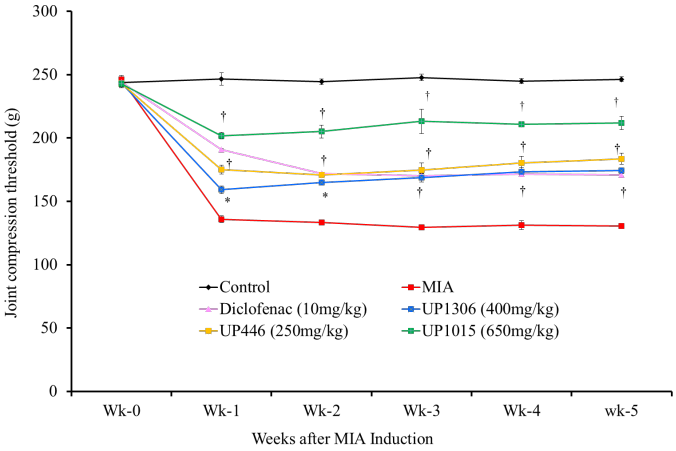


Figure 1. Compression threshold for MIA-injected rats treated with UP1306, UP446 and their combined composition UP1015 (ArthroLexin™).

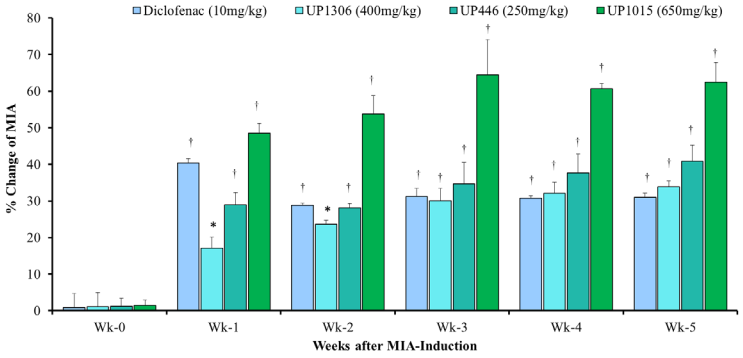


Figure 2. Pain relieving effect of composition UP1015 (ArthroLexin™) and its constituents

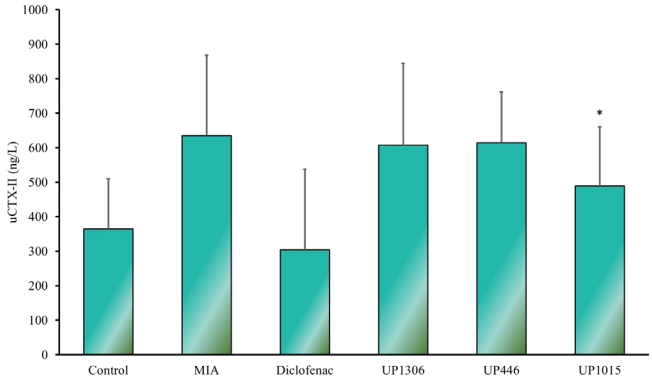


Figure 3. Urinary CTX-II from MIA rats treated with UP1306, UP446 and the combined composition UP1015 (ArthroLexin™)

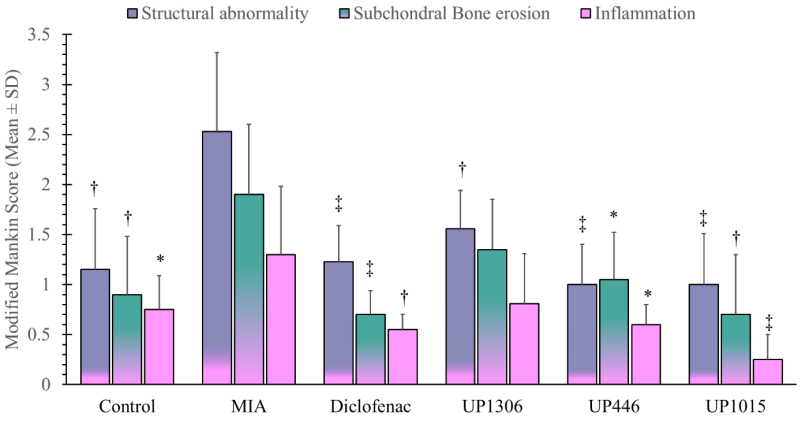


Figure 4. Microscopic changes to the knee joint of MIA rat * P≤ 0.05; † P≤ 0.001; ‡ P ≤ 0.0001

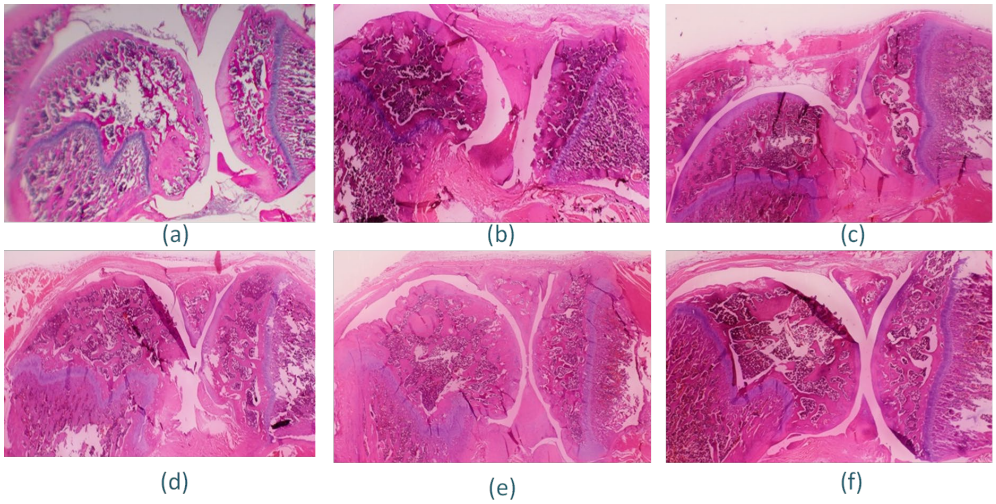


Figure 5. Histopathology findings of MIA induced rats treated with UP1306, UP446 and UP1015 (ArthroLexin™). HE stain of the knee joint. a = Normal Control; b = MIA Control; c = MIA + Diclofenac (10mg/kg); d = MIA + UP1306 (400mg/kg), e = MIA + UP446, f = MIA + UP1015 (ArthroLexin™).

Clinical Data on Joint Support*

Summary Highlights

- Statistically significant reduction in discomfort compared to placebo
- Statistically significant reduction in stiffness compared to placebo
- Statistically significant improvement in joint function compared to placebo
- Composition UP446 was safe and well tolerated

The study was a randomized, double blind, placebo and active comparator-controlled study. An independent review board approved the protocol, and all subjects were required to provide written informed consent prior to enrollment and administration of medication or any study procedures. It was conducted according to the ICH guidelines and under independent institutional review board oversight. Study subjects were recruited from the practices of primary care physicians in Montreal, Quebec. Sixty subjects (age 40-75) with symptomatic OA of the hip or knee were assigned to 4 groups (n = 15): Placebo, UP446 250 mg/day, UP446 500 mg/day and Celecoxib, 200 mg/day. The Western Ontario and McMaster University Osteoarthritis Index (WOMAC) data were collected at baseline and after 30, 60 and 90 days of supplementation as a measure of efficacy. Erythrocyte sedimentation rate, C-reactive protein, plasma thrombin time (PTT), fructosamine, Hematology, clinical chemistry and fecal occult blood were monitored for safety.

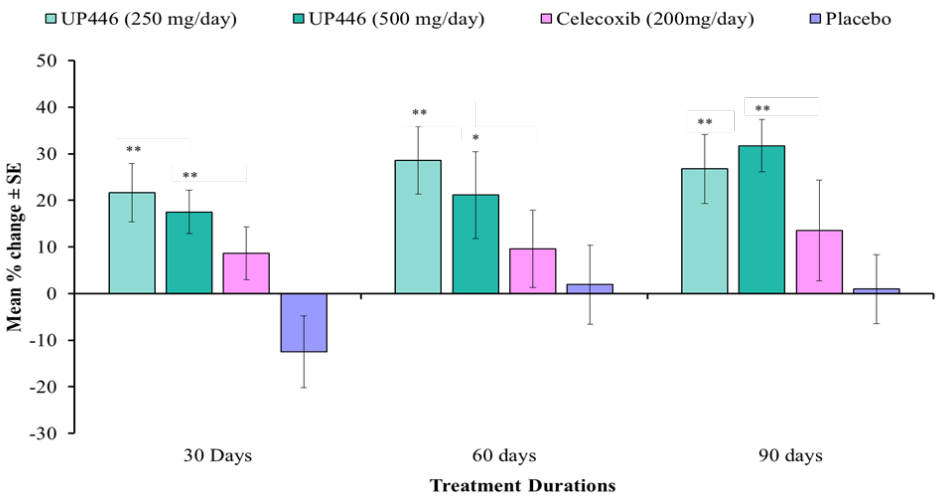


Figure 6: Percent change of stiffness from baseline for OA patients treated with the supplement

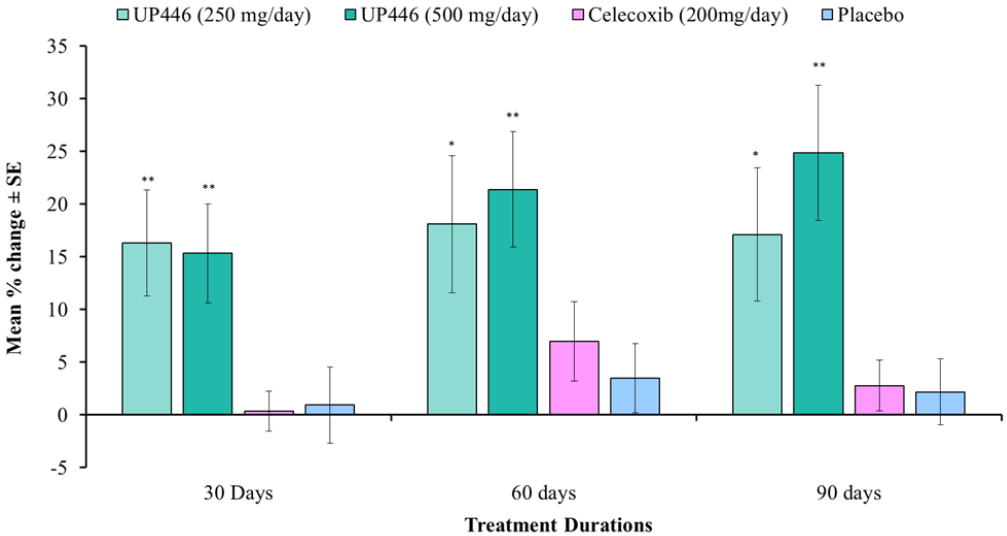


Figure 7: Percent change of improvements in joint function from baseline for OA patients treated with the supplement

Clinical Study on Cartilage Protection*

Summary Highlights

- The measure of cartilage degradation, uCTX-II, was significantly reduced compared to placebo.
- Participants in the UP1306 group showed an 8.9% reduction in the uCTX-II while there was a 25.1% increase in the uCTX-II level for the placebo group. The Glucosamine/chondroitin group showed only 0.5% increases from baseline.

A randomized placebo and active comparator controlled clinical study was conducted to determine the efficacy of UP1306 on reducing joint cartilage degradation. In this study 135 adults, aged 35 to 75 years, who had symptoms of knee discomfort were enrolled after signing the informed consent. The study participants were supplemented with UP1306 at 400 mg/day and an active comparator (Glucosamine: 1500 mg and Chondroitin: 1200 mg Combination per day) for 12 weeks. Urinary levels of uCTX-II were measured and standardized to the total urine creatinine.

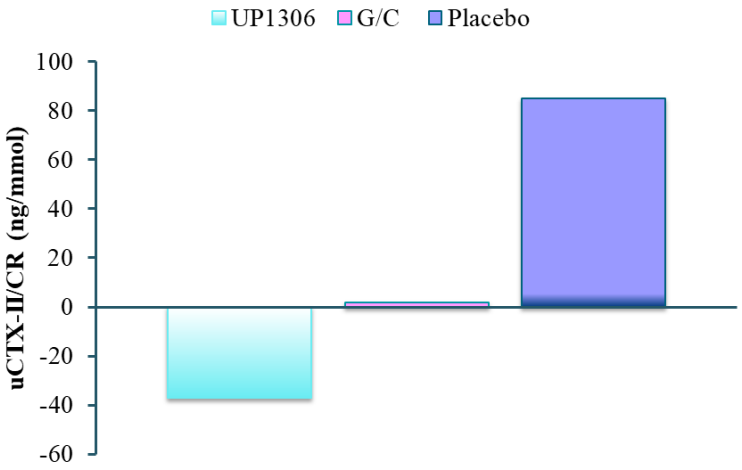


Figure 8. uCTX-II as a measure of cartilage protection

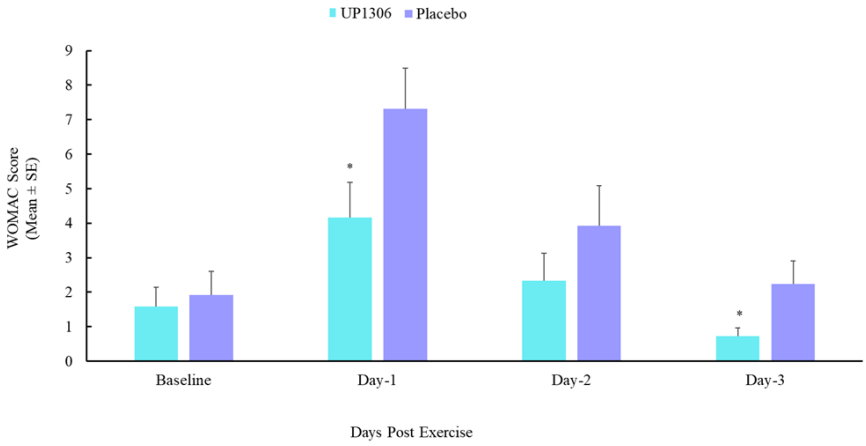
Clinical Study on Delayed Onset Muscle Soreness DOMS*

Summary Highlights

- Faster recovery from exercise induced discomfort
- Significantly reduced post-exercise oxidative stress
- Significantly increased anti-oxidation capacity

A 9-week, randomized, double-blind, placebo-controlled clinical study was conducted at a single study center, GLH Nutrition, Inc., Draper, UT. The study designs and protocols were reviewed and approved by an independent IRB and Informed consent were obtained from participants. A total of 30 healthy subjects (15 per group; UP1306/Placebo) with age group 18-70 years were enrolled in the study. Subjects were supplemented with the composition and the look alike placebo for 9 weeks (8 weeks during training regimen and 1 week after half-marathon run).

Figure 9. UP1306 reduced Womac discomfort as of day 1 post exercise



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