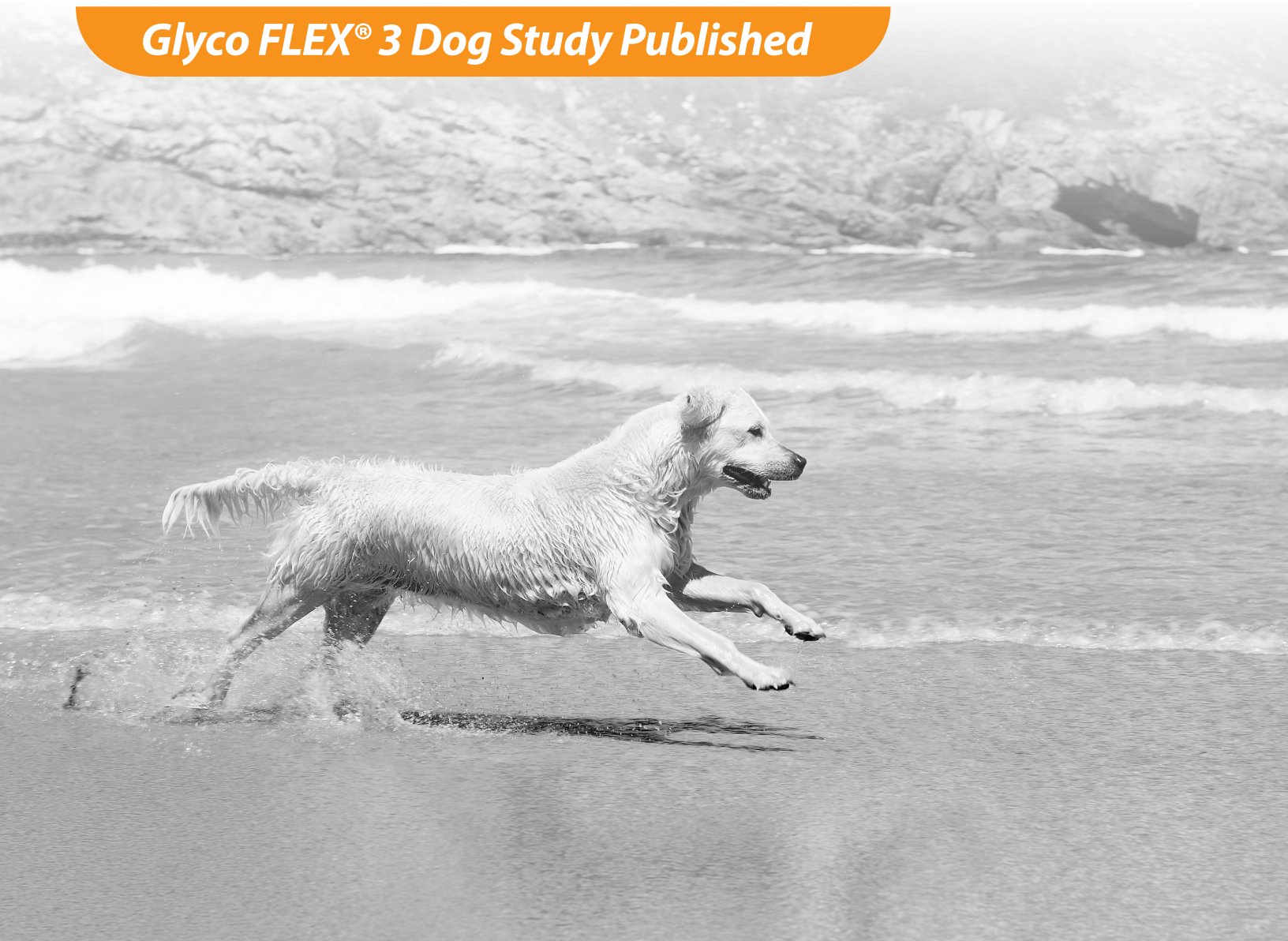




CLINICAL TRIAL UPDATE

Glyco FLEX® 3 Dog Study Published



VSL 120

Martinez S, McCormick D, Powers M, Davies N, Yanez J, Hughes K and Lincoln J. The effects of Glyco FLEX® 3 on a stable stifle osteoarthritis model in dogs: a pilot study. Washington State University, 2006. Presented at NAVC 2007.

In a randomized, double-blind, crossover design dog study, a stifle osteoarthritis (OA) model was used to determine if Glyco FLEX® 3 could reduce cartilage breakdown and help normalize joint function. The dogs were randomized into two groups, the treatment dogs (Glyco FLEX® 3) and the control group. After a wash-out period, the two groups were crossed over for treatment and control. Force plate analysis was performed on each of the dogs. Then synovial fluid was



Force plate gait analysis for lameness measuring peak vertical force and vertical impulse.

collected from the stifle joint and analyzed for markers of joint inflammation and degradation. The responders had significant improvement in lameness after treatment, with a 41% increase in Peak Vertical Force (PVF) and 44% increase in Vertical Impulse (VI) over the pre-treatment value in the dogs. There was a significant decrease in mean synovial PGE2 and soluble collagen (SC) levels in the treatment group as compared to the control group. Other synovial markers in the responders had trends for lower levels, compared to the control group. The results of the study support that Glyco FLEX® 3 may reduce the severity of cartilage breakdown and synovitis, and help normalize joint function in dogs with stifle joints affected by OA.

SUMMARY

- » Glyco FLEX® 3 may reduce the severity of cartilage breakdown and synovitis, and help normalize joint function in osteoarthritic stifle joints.
- » The results of this in vivo (VSL 120) study more than correlate/parallel those from other in vitro (VSL 130 and VSL 260) studies.

VSL 130

Yanez J, McCormick D, Hughes K, Remsberg C, Temple C, Ohgami Y, Vega-Villa K, Martinez S and Davies N. Pharmacological evaluation of Glyco FLEX® 3 on canine chondrocytes. Washington State University, 2006. Presented at NAVC 2007 and published in Journal of Medical Science, 2008: 1-14.

Canine chondrocytes were used in cell culture experiments to assess the effects of the Glyco FLEX® 3 tablets on key markers of inflammation. Glyco FLEX® 3 tablets showed positive reductions in nitric oxide (NO), soluble collagen, tumor necrosis factor-alpha, IL-6, PGE2 and matrix metalloproteinase-3 (MMP-3), which are key markers of inflammation. Glyco-Flex III appears to reduce cartilage breakdown, inhibit cytokine-induced NO and PGE2 production and reduce proteolytic breakdown. These in vitro results appear to demonstrate some of the key pathways and mechanisms by which Glyco FLEX® 3 functions in the joint. This study also shows that Glyco FLEX® 3 tablets appear to have anti-inflammatory and antioxidant properties.

SUMMARY

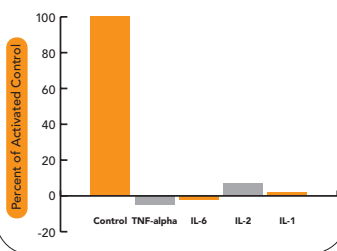
- » When used on a canine-specific cartilage cell line, Glyco FLEX® 3 appears to have anti-inflammatory and antioxidant properties.
- » Glyco FLEX® 3 appears to reduce cartilage breakdown, inhibit cytokine-induced NO and PGE2 production, and reduce proteolytic breakdown.
- » Results from this in vitro (VSL 130) study more than correlate/parallel other in vitro (VSL 260) and in vivo (VSL120) studies.

For additional research on the active ingredients in Glyco FLEX® 3 please refer to VetriScience®'s Clinical & Research Studies Guide reference #'s: VSL 100; VSL 110; VSL 200; VSL 210; VSL 220; VSL 230; VSL 240; VSL 250; VSL 260; VSL 270; VSL 280.

VSL 290

Mani S and Lawson J. In vitro modulation of inflammatory cytokine and IgG levels of *Perna canaliculus*. BMC Complement Alternative Med., 2006; 6:1.

Perna Inhibits Inflammatory Cytokines



The purpose of the study was to evaluate how *Perna canaliculus* may reduce inflammation. *Perna* demonstrated reduction of certain inflammatory pathways including those involving cytokines (TNF-alpha, IL-1, IL-2 and IL-6), cyclooxygenase enzyme (COX-2), and IgG (immunoglobulin G), suggesting that *Perna* may have a role in reducing inflammation.

SUMMARY

- » *Perna* inhibited IgG production and reduced pro-inflammatory cytokines TNF-alpha, IL-1, IL-2 and IL-6 in cell culture models.
- » *Perna* inhibits the COX-2 enzyme system.
- » Results demonstrate possible mechanisms by which *Perna* can modulate inflammatory mediators.



Glyco FLEX® 3 Bite-Sized Chews:
0900569.120



Glyco FLEX® 3 Tablets:
0900887.120