



DASUQUIN[®]

ADVANCED

JOINT HEALTH SUPPLEMENT

FOR CATS

ADVANCED FORMULA

- NMX1000[®] ASU
- FCHG49[®] Glucosamine
- TRH122[®] Sodium Chondroitin Sulfate
- Green Tea Extract (EGCG)
- Manganese Ascorbate
- Proprietary boswellic acids high in AKBA
- EPA/DHA Omega-3's (Only found in Soft Chews)
- β-glucan to help keep a healthy immune system (Only found in Soft Chews)

ADVANCED SCIENCE

- Ingredients supported by research:
 - Inhibition of multiple inflammatory mediators including NF-κB, the “switch” that turns on the inflammatory pathway
 - Support of healthy cartilage matrix production
 - Protection against cartilage breakdown

ADVANCED PACKAGING

- New dispensing cartons containing bottles or bags labeled for clinic dispensing only
- This non-internet friendly design helps you maintain and build your clinic's business
 - An area on each bottle is reserved for your clinic label encouraging compliance
 - Each carton has a unique tracking number to help protect against internet diversion



nutramax[®]
LABORATORIES
VETERINARY SCIENCES, INC.

DASUQUINADVANCED.COM

946 Quality Drive • Lancaster, SC 29720
nutramaxlabs.com • 1-888-886-6442

U.S. Patent Nos. 6,797,289, 8,753,697, and 9,572,791. For use under
U.S. Patent Nos. 8,568,803 and 8,808,770. Additional Patent Pending.

REFERENCES:

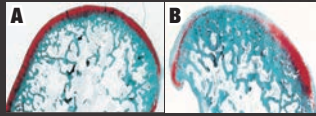
1. Lippiello L, Woodward J, Karpman R, Hammad TA. *Clin Orthop Rel Res* 2000;381:229-240.
2. Heinecke LF, Grzanna MW, Au AY, et al. *Osteoarthritis Cartilage* 2010;18:220-227.
3. Data on file. Nutramax Laboratories Veterinary Sciences, Inc. 2012.
4. Punke JP, Au RY, Au AY, et al. 2007 *ACVS Veterinary Symposium*; poster.
5. Grzanna MW, Heinecke LF, Au AY, et al. 36th Annual Conference Veterinary Orthopedic Society 2009; poster.

*Source: Among veterinary brands. Survey conducted among small animal veterinarians who recommended oral joint health supplements.



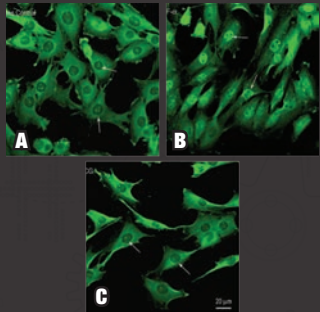
Glucosamine (Glu) + Chondroitin Sulfate (CS) + Manganese Ascorbate (Mn):

- Support cartilage matrix production and inhibit cartilage breakdown
- Together shown in cell culture research to protect cartilage better than either one alone¹
- Also help to support comfort level



Red=cartilage. A is from group given Glu, CS, and manganese ascorbate (more cartilage). B is from control group (less cartilage).¹

Green Tea Extract (EGCG):

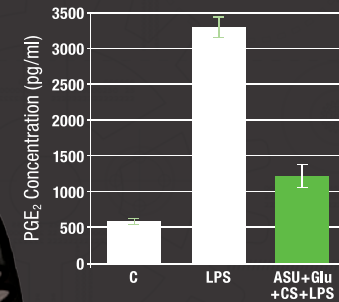


- Provides antioxidant benefits
- Epigallocatechin gallate (the green tea extract EGCG) plus ASU inhibited COX-2 expression and PGE₂ production better than either agent alone in cell culture research
- Nuclear translocation of NF-κB (activation which “switches on” the inflammatory pathway) was also inhibited by EGCG plus ASU²

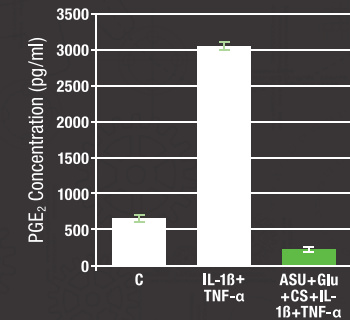
Control chondrocytes (A) contain most NF-κB (stained bright green) in the cytoplasm. When chondrocytes are activated (B), NF-κB moves in to the nuclei to start the inflammatory cascade. ASU and EGCG (C) inhibit much of this nuclear translocation, inhibiting the cascade at its source.

Avocado/Soybean Unsaponifiables (ASU):

- Protects cartilage and supports joint comfort
- In feline chondrocytes, the combination of ASU, Glu, and CS decreased PGE₂ production compared to activated control^{4,5}



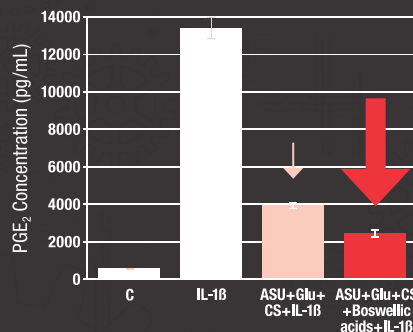
C=non-activated control. LPS=control cells activated by lipopolysaccharide.



C=non-activated control. IL-1β+TNF-α=control cells activated by interleukin-1β and tumor necrosis factor-α.

Boswellia Serrata Extract (AKBA):

- The proprietary blend in Dasuquin[®] Advanced contains a selective mix of boswellic acids high in AKBA (acetyl-11-keto-boswellic acid), which has been shown in vitro to inhibit the inflammatory response
- **30% more reduction in PGE₂ in vitro by adding our boswellia to ASU+Glu+CS³**
- Boswellia+ASU has been shown in cell culture research to inhibit other inflammatory mediators (IL-6, IL-8, and MCP-1)³



DASUQUIN[®]

ADVANCED

JOINT HEALTH SUPPLEMENT

FOR CATS

*Soft Chews Only