



# LKT Laboratories, Inc.

## Chondroitin Sulfate, cow

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### Product Information

Product ID C2960

CAS No. 9007-28-7

#### Chemical Name

Synonym Chondroitinsulfuric acid, Chonsurid, Structum

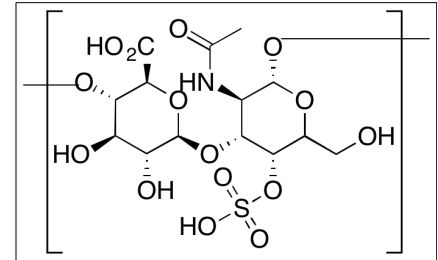
Formula  $C_{13}H_{21}NO_{15}S$

Formula Wt. ~50,000 Da

Melting Point 190-194°C

Purity ≥90%

Solubility Soluble in water.



**Bulk quantities available upon request**

Product ID	Size
C2960	5 g
C2960	25 g

Store Temp 4°C

Ship Temp Ambient

**Description** Chondroitin sulfate (CS) is a polyanionic sulfated glycosaminoglycan that displays anti-arthritic, antioxidative, and anti-inflammatory activities. CS is an endogenous component of the extracellular matrix of connective tissues and is responsible for their resistance and elasticity. CS is often used as a dietary supplement, although its oral bioavailability is quite low (10-20%). In vivo, CS decreases synovitis and levels of IL-6, TNF- $\alpha$ , IL-1B, and myeloperoxidase. CS may act on toll-like receptor 4 (TLR4), preventing activation of NF- $\kappa$ B and inhibiting TNF receptor association factor 6 (TRAF6). In cellular and animal models, CS increases synthesis of collagen, proteoglycan, and hyaluronic acid; it also downregulates expression of matrix metalloproteinases 1, 3, and 13. In vitro, CS increases levels of glutathione and superoxide dismutase and inhibits activation of caspases 3 and 7, decreasing levels of ROS.

- References** Henrotin Y, Mathy M, Sanchez C, et al. Chondroitin sulfate in the treatment of osteoarthritis: from in vitro studies to clinical recommendations. *Ther Adv Musculoskelet Dis.* 2010 Dec;2(6):335-48. PMID: 22870459.
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- Campo GM, Avenoso A, Campo S, et al. Chondroitin-4-sulphate inhibits NF- $\kappa$ B translocation and caspase activation in collagen-induced arthritis in mice. *Osteoarthritis Cartilage.* 2008 Dec;16(12):1474-83. PMID: 18501644.
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- Omata T, Itokazu Y, Inoue N, et al. Effects of chondroitin sulfate-C on articular cartilage destruction in murine collagen-

**Caution:** This product is intended for laboratory and research use only. It is not for human or drug use.