

## Chondroitin sulfate

### Chemical Properties

CAS No. : 9007-28-7

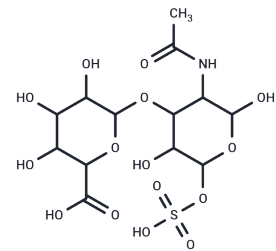
Formula: (C<sub>14</sub>H<sub>21</sub>N<sub>0</sub>O<sub>14</sub>S)<sub>n</sub>

Molecular Weight:

Keep away from direct sunlight

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



### Biological Description

Description	Chondroitin sulfate (Chonsurid) is extracted from bovine sources; Store the product in sealed, cool and dry condition.
Targets(IC50)	MMP,Endogenous Metabolite,NO Synthase
In vitro	Chondroitin sulfate, a sulfated glycosaminoglycan comprising linear polysaccharides with repeating disaccharide units of uronic acid and N-acetylhexosamine, plays a critical role in the extracellular matrix of various connective tissues, including bone, cartilage, skin, ligaments, and tendons. It has been observed that various pathogens such as parasites, bacteria, and viruses exploit chondroitin sulfate on the cell surface for host cell attachment and infection. Beyond its natural occurrence, chondroitin sulfate exhibits multiple beneficial properties, including anti-inflammatory effects, promotion of type II collagen and proteoglycan production, reduction in bone resorption, and support for a positive anabolic/catabolic balance in chondrocytes. In vitro studies have employed a broad spectrum of chondroitin sulfate concentrations, typically not exceeding 200 mg/mL, demonstrating its capability to diminish chondrocyte vulnerability to apoptosis triggered by single nucleotide polymorphism at 200 mg/mL concentration. Moreover, it significantly lowers the levels of inflammation mediators, the apoptotic process, and inflammatory cytokine, iNOS, and MMPs production.
In vivo	The high content of chondroitin sulfate in aggrecan significantly enhances cartilage's resistance and elasticity, enabling it to withstand tensile stresses under various loading conditions. Research suggests that chondroitin sulfate mitigates structural changes in joint tissues, supporting its use in treating osteoarthritis patients. Administered orally at 800 to 1200 mg/day, chondroitin sulfate is rapidly absorbed by the gastrointestinal tract, entering the bloodstream as 10% unchanged and 90% depolymerized low-molecular-weight derivatives.
Cell Research	Chondrocytes are cultured into six-well culture plates. 12 hours after plating, the culture medium is replaced with 2.0 mL of fresh medium containing LPS at a concentration of 50 mg/mL. 4 hours later, HA, Chondroitin sulfate, HS, keratan sulphate and DS are added separately to each of the wells at concentrations of 0.5 and 1.0 mg/mL. The number of viable chondrocytes is then quantified by trypan blue dye exclusion test from several randomly chosen areas of each well[4].

### Solubility Information

Solubility	DMSO: Slightly soluble, H2O: 25 mg/mL, Sonication is recommended. ( $< 1$ mg/ml refers to the product slightly soluble or insoluble)
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### Reference

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