

Active Native Goat KS Protein

Cat. No. KS-01G Lot. No. (See product label)

SPECIFICATION

Product Overview

Native Goat Keratan sulfate Protein was purified from cornea of goat eyes through chemical extraction with 4M guanidine-HCl and further purified with anion-exchange chromatography steps. The identity of KS was confirmed by radioisotope ³⁵S labeling with KS specific sulfotransferases, CHST1 and CHST6, followed by Recombinant F. keratolyticus Endo-beta-Galactosidase digestion, which also suggested that KS accounts for majority of the mass of this product.

Species

Goat

Source

Cornea

Description

Keratan sulfate (KS) is a special glycosaminoglycan (GAG) found in cornea, cartilage and bone. GAGs are a group of linear polysaccharides with different repeating disaccharide units. Other GAGs include heparin, heparan sulfate (HS), chondroitin sulfate (CS), dermatan sulfate (DS), and hyaluronan (HA). Proteoglycans refer to GAG-protein conjugates. Known KS proteoglycans include lumican, keratocan, mimecan, aggrecan and fibromodulin. They have been identified in numerous epithelial and neural tissues in which KS expression responds to embryonic development, physiological variations, and wound healing. KS was first identified in 1939 by Suzuki in extracts of cornea, and later by Karl Meyer. The basic repeating disaccharide unit within KS is -3Gal beta 1-4GlcNAc beta 1 and are polymerized by B4GALT) and B3GNT families of glycosyltransferase. KS chains are subsequently sulfated by two specific sulfotransferases, CHST1 and CHST6, at a region close to its non-reducing end. KS is linked to core proteins either through O-glycan or N-glycan

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	and corneal KS is mostly N-linked glycan
Bio-activity	Measured by its ability to act as a substrate for Recombinant F. keratolyticus Endo-beta-galactosidase. >90% of Keratan Sulfate Proteoglycans can be cleaved under the described conditions.
Molecular Mass	30-300 kDa
Endotoxin	< 1.0 EU/μg of the protein by the LAL method.
Purity	> 90% by SDS-PAGE with silver staining.
Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 6 months from date of receipt, -20 to -70 centigrade as supplied. 3 months, -20 to -70 centigrade under sterile conditions after opening.
Storage Buffer	Supplied as a 0.2 μm filtered solution in deionized water.
Shipping	The product is shipped with polar packs.
GENE INFORMATION	
Synonyms	Keratan Sulfate Proteoglycans; Keratan Sulfate; KS

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