SANTA CRUZ BIOTECHNOLOGY, INC.

chondroitin sulfate (CS-56): sc-58514



BACKGROUND

Chondroitin sulfate is a sulfated glycosaminoglycan (GAG) composed of a chain of alternating sugars, usually attached to proteins as part of a proteoglycan. Chondroitin sulfate is a major component of the extracellular matrix, and it plays a key role in maintaining the structural integrity of the tissue. Chondroitin sulfate is an important structural component of cartilage and is responsible for most of its resistance to compression. This molecule also has regulatory roles, as it readily interacts with proteins in the extracellular matrix due to its negative charges. These interactions are important for regulating a diverse array of cellular activities. In the nervous system, chondroitin sulfate proteoglycans function to regulate the growth and development of the nervous system as well as the nervous system response to injury. Chondroitin is commonly used in dietary supplements as an alternative medicine to treat osteoarthritis.

REFERENCES

- 1. Davidson, E.A. and Meyer, K. 1955. Chondroitin, a new mucopolysaccharide. J. Biol. Chem. 211: 605-611.
- 2. McAlindon, T.E., LaValley, M.P., Gulin, J.P. and Felson, D.T. 2000. Glucosamine and chondroitin for treatment of osteoarthritis: a systematic quality assessment and meta-analysis. JAMA 283: 1469-1475.
- 3. Avci, F.Y., Toida, T. and Linhardt, R.J. 2003. Chondroitin O-methyl ester: an unusual substrate for chondroitin AC lyase. Carbohydr. Res. 338: 2101-2104.
- 4. Silbert, J.E. and Sugumaran, G. 2003. Biosynthesis of chondroitin/dermatan sulfate. IUBMB Life 54: 177-186.
- 5. Akiyama, H., Sakai, S., Linhardt, R.J., Goda, Y., Toida, T. and Maitani, T. 2004. Chondroitin sulphate structure affects its immuno-logical activities on murine splenocytes sensitized with ovalbumin. Biochem. J. 382: 269-278.
- 6. Zou, X.H., Foong, W.C., Cao, T., Bay, B.H., Ouyang, H.W. and Yip, G.W. 2004. Chondroitin sulfate in palatal wound healing. J. Dent. Res. 83: 880-885.
- 7. Dawlee, S., Sugandhi, A., Balakrishnan, B., Labarre, D. and Jayakrishnan, A. 2005. Oxidized chondroitin sulfate-cross-linked gelatin matrixes: a new class of hydrogels. Biomacromolecules 6: 2040-2048.
- 8. Clegg, D.O., Reda, D.J., Harris, C.L., Klein, M.A., O'Dell, J.R., Hooper, M.M., Bradley, J.D., Bingham, C.O., Weisman, M.H., Jackson, C.G., Lane, N.E., Cush, J.J., Moreland, L.W., Schumacher, H.R., Oddis, C.V., Wolfe, F., Molitor, J.A., Yocum, D.E., et al. 2006. Glucosamine, chondroitin sulfate and the two in combination for painful knee osteoarthritis. N. Engl. J. Med. 354: 795-808.
- 9. Barnhill, J.G., Fye, C.L., Williams, D.W., Reda, D.J., Harris, C.L. and Clegg, D.O. 2006. Chondroitin product selection for the glucosamine/chondroitin arthritis intervention trial. J. Am. Pharm. Assoc. 46: 14-24.

SOURCE

chondroitin sulfate (CS-56) is a mouse monoclonal antibody raised against ventral membranes of gizzard fibroblasts of avian origin.

PRODUCT

Each vial contains 100 μ l ascites containing IgM with < 0.1% sodium azide.

APPLICATIONS

chondroitin sulfate (CS-56) is recommended for detection of chondroitin sulfate A and C of mouse, rat, human, avian and bovine origin by immunofluorescence (starting dilution to be determined by researcher, dilution range 1:50-1:2500); non cross-reactive with dermatan sulphate.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliguots in order to avoid repeated freeze/ thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.