chondroitin-4-sulfate (4D1): sc-47718

BACKGROUND

4D1 clone reacts with native chondroitin-4-sulfate (Ch-4-S), a D-glucuronate and N-acetylgalactosamine (GalNAc) 4-sulfate-linked disaccharide unit. Ch-4-S disaccharide units form repeating chains known as glycosaminoglycans (GAGs), which are gel-like substances found in body cells, mucous secretions and synovial fluids that influence normal function of cartilage, bone and heart valves. GAGs carry a negative charge with extended conformation that imparts high viscosity. Along with the high viscosity of GAGs comes low compressibility, which makes these molecules ideal for lubricating fluid in the joints. The majority of GAGs in the body are linked to core proteins, forming proteoglycans (mucopolysaccharides). 4D1 arose from immunization of Balb/c female mice with a versican-containing preparation from bovine aorta predigested with endo-β-galactosidase and keratanase II. Ch-4-S is present on several proteoglycans including aggrecan, NG2, versican, brevican, decorin and biglycan.

REFERENCES


CHROMOSOMAL LOCATION

Genetic locus: CSPG2 (human) mapping to 5q14.3.

SOURCE

chondroitin-4-sulfate (4D1) is a mouse monoclonal antibody raised against chondroitin-4-sulfate derived from aorta tissue homogenate of bovine origin.

STORAGE

Store at 4° C. **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PRODUCT

Each vial contains 200 µg IgM in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

chondroitin-4-sulfate (4D1) is recommended for detection of chondroitin-4-sulfate (condroitin sulfate A) of versican, NG2, aggrecan, neurocan, brevican, decorin, and biglycan of human and bovine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation (1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of chondroitin-4-sulfate: 380 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgM-HRP: sc-2064 (dilution range: 1:500-1:5,000), TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L PLUS-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-mouse IgM-FITC: sc-2082 (dilution range: 1:100-1:400) or goat anti-mouse IgM-TR: sc-2983 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2050 or ABC: sc-2017 mouse IgG Staining Systems.

DATA

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

PROTOCOLS

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