

MOUSE ANTI-HEPARAN SULFATE PROTEOGLYCAN (HSPG) MONOCLONAL ANTIBODY

CATALOG NUMBER:	MAB458	QUANTITY:	1 mL
LOT NUMBER:		CONCENTRATION:	100 µg/mL
ALTERNATE NAMES:	HSPG		
CLONE NAME:	7E12	HOST/ISOTYPE:	Ms IgG1

BACKGROUND: Heparan sulfate proteoglycans (HSPGs) are found on cell surfaces and in the extracellular matrix of all mammalian tissues. HS consists of an unbranched chain of repeating disaccharide units containing glucosamine and hexuronic acid. Thus HS is structurally similar to heparin but contains lower contents of N-sulfates, O-sulfate, and IdUA, and more GlcUA than does heparin. HS is attached to serine residues at Ser-Gly sequences in a protein core through a tetrasaccharide linkage region. Generally two to four HS chains are attached to a protein core and CS may be found in some protein cores. HSPGs found in the brain are dystroglycan, N-syndecan glypican, and perlecan. HSPGs differ in their protein cores that are thought to determine the location of HSPG in the cell membrane (syndecan and glypican) and extracellular matrix (perlecan and dystroglycan). The composition of HS isolated from brain differs significantly from that of other organs and is developmentally regulated. Thus, differences in protein cores, disaccharide composition, the extent and position of sulfation, and the number of GAG chains diversify chemical structure and functions of HSPGs. The postulated functions of HSPG include cell proliferation, differentiation, adhesion, migration, and morphogenesis.

SPECIFICITY: Heparan Sulfate Proteoglycan protein core of basement membrane.

IMMUNOGEN: Bovine Glomeruli Heparan Sulfate Proteoglycan.

APPLICATIONS: Western Blot at 1:50-1:100. Do not place antibody in milk block as absorbtion can occur, also samples must be digested with chondroitinase prior to running on SDS gels because undigested HSPG is too large for most gels. Treatment is at a concentration of chondroitinase of 10U/mL in Tris-HCL pH 8.0. Make tissue or cell extract in 20-50mM Tris pH 7.6-8.0 with 0.15M NaCl in the presence of protease inhibitors. Add 1 microliter of enzyme to 30 microliters of extract and incubate 30 minutes at 37C. Then add SDS sample buffer, heat or boil sample as normal for SDS reducing samples. Antibody detects >200kDa core protein, typically as a large smear. Immunohistochemistry at 1:25: with trypsin antigen recovery, recommended. Heparitinase appears to enhance 7E12 immunoreactivity as well. Not suggested for use on cultured cells or culture extracts, only in tissue. Working dilutions are suggested only and are for use in conjunction with purified HSPG.

Optimal working dilutions must be determined by end user.

SPECIES REACTIVITY: Reacts with Bovine, Canine (Dog) and Human. Does not react with Amphibian, Mouse and Rat. Reactivity with other species has not been determined.

PRESENTATION: Liquid tissue culture supernatant, containing 3% BSA and DMEM media base with no preservatives.

STORAGE/HANDLING: Maintain at -20°C in undiluted aliquots for up to 12 months. Avoid repeated freeze/thaw cycles.

REFERENCES:

Dumon, KR et al. (2001). Fragile Histidine Triad Expression Delays Tumor Development and Induces Apoptosis in Human Pancreatic Cancer. *Canc Res* 61:4827-4836.

Ortega-Barria, E et al. (1999) A Toxoplasma Lectin-like Activity Specific for Sulfated Polysaccharides Is Involved in Host Cell Infection*. *J Biol Chem* 274(3):1267-1276.

Wilkins, BS et al. (1995). Immunohistochemical characterization of intact stromal layers in long-term cultures of human bone marrow.. *British Journal of Haematology* 90(4):757-766.

Kemeny, E et al. (1988). Monoclonal antibodies to heparan sulfate proteoglycan: development and application to the study of normal tissue and pathologic human kidney biopsies.. *Connect Tissue Res* 18(1):9-25.

For research use only; not for use as a diagnostic.

Important Note: *During shipment, small volumes of product will occasionally become entrapped in the seal of the product vial. For products with volumes of 200 μ L or less, we recommend gently tapping the vial on a hard surface or briefly centrifuging the vial in a tabletop centrifuge to dislodge any liquid in the container's cap.*

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