SANTA CRUZ BIOTECHNOLOGY, INC.

Perlecan (L-20): sc-27449

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Perlecan is part of a large family of heparan sulfate proteoglycans (HSPGs). As key components of cell surfaces and extracellular matrices, HSPGs modulate growth factor activities and thereby influence cell growth and differentiation. Additionally, HSPGs play a critical role in regulating tumor cell metastasis by mediating cell adhesion and the activities of growth and angiogenic factors. Perlecan consists of five distinct structural domains that interact with a number of matrix molecules, cytokines and growth factors to influence cartilage development and neuromuscular junction activity. Antithrombin, a key regulator of blood coagulation proteases, and TGFβ1 act as inhibitors and stimulators of Perlecan expression, respectively, interactions which may provide avenues for therapeutic intervention in certain types of cancer.

REFERENCES

1. Hassell, J., et al. 2002. Role of Perlecan in skeletal development and diseases. Glycoconj. J. 19: 263-267.
2. Jiang, X., et al. 2003. Perlecan and tumor angiogenesis. J. Histochem. Cytochem. 51: 1393-1410.
3. Reiland, J., et al. 2004. Heparanase degrades syndecan-1 and perlecan heparan sulfate: functional implications for tumor cell invasion. J. Biol. Chem. 279: 8047-8055.
4. Zhang, W., et al. 2004. Antiangiogenic antithrombin downregulates the expression of the proangiogenic heparan sulfate proteoglycan, perlecan, in endothelial cells. Blood 103: 1185-1191.
5. Casar, J.C., et al. 2004. Heparan sulfate proteoglycans are increased during skeletal muscle regeneration: requirement of syndecan-3 for successful fiber formation. J. Cell Sci. 117: 73-84.

CHROMOSOMAL LOCATION

Genetic locus: HSPG2 (human) mapping to 1p36.12; Hspg2 (mouse) mapping to 4 D3.

SOURCE

Perlecan (L-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Perlecan of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-27449 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

RESEARCH USE

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

APPLICATIONS

Perlecan (L-20) is recommended for detection of precursor and mature Perlecan of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

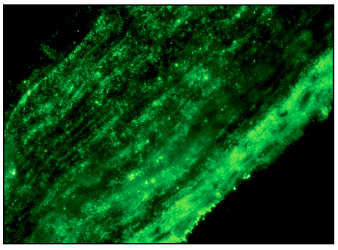
Perlecan (L-20) is also recommended for detection of precursor and mature Perlecan in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Perlecan siRNA (h): sc-44010, Perlecan siRNA (m): sc-44394, Perlecan shRNA Plasmid (h): sc-44010-SH, Perlecan shRNA Plasmid (m): sc-44394-SH, Perlecan shRNA (h) Lentiviral Particles: sc-44010-V and Perlecan shRNA (m) Lentiviral Particles: sc-44394-V.

Molecular Weight of Perlecan: 400 kDa.

Positive Controls: mouse eye extract: sc-364241.

DATA



Perlecan (L-20): sc-27449. Immunofluorescence staining of normal mouse eye frozen section showing basement membrane and stroma staining.

SELECT PRODUCT CITATIONS

1. Shibata, M., et al. 2010. Reduced expression of perlecan in the aorta of secondary hyperparathyroidism model rats with medial calcification. Ren. Fail. 32: 214-223.
2. Gesteira, T.F., et al. 2011. A novel approach for the characterisation of proteoglycans and biosynthetic enzymes in a snail model. Biochim. Biophys. Acta 1814: 1862-1869.
3. Coulson-Thomas, V.J., et al. 2011. Colorectal cancer desmoplastic reaction up-regulates collagen synthesis and restricts cancer cell invasion. Cell Tissue Res. 346: 223-236.

PROTOCOLS

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