

Perlecan (A76): sc-80555

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 TGF β 1 act as inhibitors and stimulators of Perlecan expression, respectively, interactions which may provide avenues for therapeutic intervention in certain types of cancer.

REFERENCES

- Hassell, J., Yamada, Y. and Arikawa-Hirasawa, E. 2002. Role of Perlecan in skeletal development and diseases. *Glycoconj. J.* 19: 263-267.
- Jiang, X. and Couchman, J.R. 2003. Perlecan and tumor angiogenesis. *J. Histochem. Cytochem.* 51: 1393-1410.
- Reiland, J., Sanderson, R.D., Waguespack, M., Barker, S.A., Long, R., Carson, D.D. and Marchetti, D. 2004. Heparanase degrades Syndecan-1 and Perlecan heparan sulfate: functional implications for tumor cell invasion. *J. Biol. Chem.* 279: 8047-8055.
- Zhang, W., Chuang, Y.J., Swanson, R., Li, J., Seo, K., Leung, L., Lau, L.F. and Olson, S.T. 2004. Antiangiogenic antithrombin downregulates the expression of the pro-angiogenic heparan sulfate proteoglycan, Perlecan, in endothelial cells. *Blood* 103: 1185-1191.
- Casar, J.C., Cabello-Verrugio, C., Olguin, H., Aldunate, R., Inestrosa, N.C. and Brandan, E. 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.

SOURCE

Perlecan (A76) is a mouse monoclonal antibody raised against lysed corneal endothelial cells and extracellular matrix of bovine origin.

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

PROTOCOLS

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

APPLICATIONS

Perlecan (A76) is recommended for detection of Perlecan of human and bovine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); non cross-reactive with other connective tissue proteins (Vitronectin, Fibronectin, elastin, collagen and Laminin) and may be cross-reactive with human Thrombospondin.

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

Molecular Weight of Perlecan: 400 kDa.

RESEARCH USE

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



See **Perlecan (E-6): sc-377219** for Perlecan antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647.