# Perlecan (6F167): sc-71882



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 TGF $\beta$ 1 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., 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 (6F167) is a mouse monoclonal antibody raised against lysed corneal endothelial cells and extracellular matrix of bovine origin.

# **PRODUCT**

Each vial contains 100  $\mu g$   $lgG_1$  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 (6F167) 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  $\mu g$  per 100-500  $\mu g$  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, 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<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647.

Santa Cruz Biotechnology, Inc. 1.800.457.3801 831.457.3801 Fax 831.457.3801 Europe +00800 4573 8000 49 6221 4503 0 www.scbt.com