SANTA CRUZ BIOTECHNOLOGY, INC.

PTN (H-75): sc-20716

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Pleiotrophin (PTN) and midkine (MK) comprise a family of structurally related, developmentally regulated genes. Human PTN is synthesized as a 168 amino acid precursor which is subsequently cleaved to generate a 136 amino acid protein. Human PTN is approximately 50% identical to human MK, with conservation of all 10 cysteines. Cells reported to express PTN include osteoblasts, chondrocytes, fibroblasts, astrocytes, oligodendroglia, Schwann cells, neurons, pituicytes and Leydig cells. PTN is a heparin-binding growth factor that functions as a weak mitogen and promotes neurite-outgrowth from embryonic brain neurons. PTN is expressed at high levels in many tissues during fetal development, but becomes restricted to the brain in adult animals.

REFERENCES

1. Li, Y.S., et al. 1990. Cloning and expression of a developmentally regulated protein that induces mitogenic and neurite outgrowth activity. Science 250: 1690-1694.
2. Bohlen, P., et al. 1991. HBNF and MK, members of a novel gene family of heparin-binding proteins with potential roles in embryogenesis and brain function. Prog. Growth Factor Res. 3: 143-157.
3. Raulais, D., et al. 1991. A new heparin binding protein regulated by retinoic acid from chick embryo. Biochem. Biophys. Res. Commun. 174: 708-715.
4. Li, Y.S., et al. 1992. Characterization of the human pleiotrophin gene: promoter region and chromosomal localization. J. Biol. Chem. 267: 26011-26016.
5. Milner, P.G., et al. 1992. Cloning, nucleotide sequence, and chromosome localization of the human pleiotrophin gene. Biochemistry 31: 12023-12028.

CHROMOSOMAL LOCATION

Genetic locus: PTN (human) mapping to 7q33; Ptn (mouse) mapping to 6 B1.

SOURCE

PTN (H-75) is a rabbit polyclonal antibody raised against amino acids 94-168 of PTN 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.

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.

PROTOCOLS

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

APPLICATIONS

PTN (H-75) is recommended for detection of precursor and mature PTN of mouse, rat and human 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PTN (H-75) is also recommended for detection of precursor and mature PTN in additional species, including equine, canine, bovine, porcine and avian.

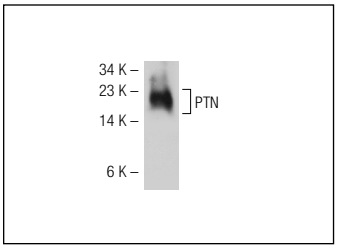
Suitable for use as control antibody for PTN siRNA (h): sc-39713, PTN siRNA (m): sc-39714, PTN shRNA Plasmid (h): sc-39713-SH, PTN shRNA Plasmid (m): sc-39714-SH, PTN shRNA (h) Lentiviral Particles: sc-39713-V and PTN shRNA (m) Lentiviral Particles: sc-39714-V.

Molecular Weight (predicted) of PTN: 18 kDa.

Molecular Weight (observed) of PTN: 18-25 kDa.

Positive Controls: rat brain extract: sc-2392 or HeLa nuclear extract: sc-2120.

DATA



PTN (H-75): sc-20716. Western blot analysis of PTN expression in rat brain tissue extract.

SELECT PRODUCT CITATIONS

1. Mourlevat, S., et al. 2005. Pleiotrophin mediates the neurotrophic effect of cyclic AMP on dopaminergic neurons: analysis of suppression-subtracted cDNA libraries and confirmation *in vitro*. Exp. Neurol. 194: 243-254.
2. Antoine, M., et al. 2005. Upregulation of pleiotrophin expression in rat hepatic stellate cells by PDGF and hypoxia: implications for its role in experimental biliary liver fibrogenesis. Biochem. Biophys. Res. Commun. 337: 1153-1164.
3. Mäkitie, A.A., et al. 2005. Molecular characterization of salivary gland malignancy using the Smgb-Tag transgenic mouse model. Lab. Invest. 85: 947-961.