

PTN (C-19): sc-1394

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, pituitary cells 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.

CHROMOSOMAL LOCATION

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

SOURCE

PTN (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus 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.

Blocking peptide available for competition studies, sc-1394 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.

APPLICATIONS

PTN (C-19) 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), immunohistochemistry (including paraffin-embedded sections) (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 (C-19) is also recommended for detection of precursor and mature PTN in additional species, including equine, canine, bovine and porcine.

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.

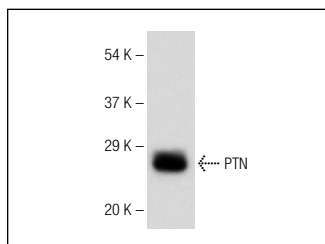
Molecular Weight (observed) of PTN: 18-25 kDa.

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

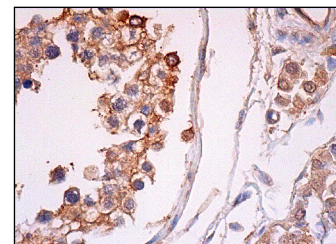
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



PTN (C-19): sc-1394. Western blot analysis of PTN expression in rat brain tissue extract.



PTN (C-19): sc-1394. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic staining of cells in seminiferous ducts and Leydig cells.

SELECT PRODUCT CITATIONS

1. Polykratis, A., et al. 2005. Characterization of heparin affinity regulatory peptide signaling in human endothelial cells. *J. Biol. Chem.* 280: 22454-22461.
2. Blondet, B., et al. 2005. Pleiotrophin cellular localization in nerve regeneration after peripheral nerve injury. *J. Histochem. Cytochem.* 53: 971-977.
3. Martin, J., et al. 2006. The pluripotent cytokine pleiotrophin is induced by wounding in human mesangial cells. *Kidney Int.* 70: 1616-1622.
4. Garcia-Gutierrez, P., et al. 2014. Pleiotrophin antagonizes Brd2 during neuronal differentiation. *J. Cell Sci.* 127: 2554-2564.

RESEARCH USE

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



Try **PTN (H-6): sc-74443**, our highly recommended monoclonal alternative to PTN (C-19).