

PN-1 (D-18): sc-32454

BACKGROUND

The serine protease inhibitors (serpins) compose a superfamily of proteins with a diverse set of functions, including the control of blood coagulation, complement activation, programmed cell death and development. Serpins are secreted glycoproteins that contain a stretch of peptide that mimics a true substrate for a corresponding serine protease. Protease nexin-1 (PN-1) is a serpin that inactivates several proteases, including thrombin, urokinase, plasminogen activators (PA) and plasmin. It is involved in tissue remodeling, cellular invasiveness, matrix degradation and tumor growth. PN-1 expression is abundant in the nervous system, where it inhibits thrombin, thereby playing a role in neural injury and repair processes. An imbalance between PN-1 and thrombin may be a contributing factor in the pathology of Alzheimer's disease.

REFERENCES

- Mulligan, L.P., et al. 1991. Protease nexin-1 activity in cultured Schwann cells. *Neurosci. Lett.* 128: 42-46.
- Vaughan, P.J., et al. 1994. Protease nexin-1, a potent thrombin inhibitor, is reduced around cerebral blood vessels in Alzheimer's disease. *Brain Res.* 668: 160-170.
- Smith-Swintosky, V.L., et al. 1995. Protease nexin-1 and thrombin modulate neuronal Ca²⁺ homeostasis and sensitivity to glucose deprivation-induced injury. *J. Neurosci.* 15: 5840-5850.
- Guttridge, D.C., et al. 1996. Characterization of the human protease nexin-1 promoter and its regulation by Sp1 through a G-/C-rich activation domain. *J. Neurochem.* 67: 498-507.
- Kim, N.K., et al. 2001. Increased expression and localization of a serine protease inhibitor, protease nexin-1 (PN-1), in the ovary and uterus during implantation in rat. *Thromb. Res.* 103: 135-142.
- Giau, R., et al. 2005. Constitutive secretion of protease nexin-1 by glial cells and its regulation by G protein-coupled receptors. *J. Neurosci.* 25: 8995-9004.

CHROMOSOMAL LOCATION

Genetic locus: SERPINE2 (human) mapping to 2q36.1; Serpine2 (mouse) mapping to 1 C4.

SOURCE

PN-1 (D-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PN-1 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-32454 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

PN-1 (D-18) is recommended for detection of PN-1 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).

PN-1 (D-18) is also recommended for detection of PN-1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PN-1 siRNA (h): sc-45254, PN-1 siRNA (m): sc-45255, PN-1 shRNA Plasmid (h): sc-45254-SH, PN-1 shRNA Plasmid (m): sc-45255-SH, PN-1 shRNA (h) Lentiviral Particles: sc-45254-V and PN-1 shRNA (m) Lentiviral Particles: sc-45255-V.

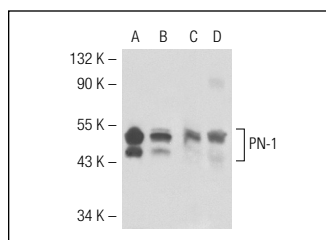
Molecular Weight of PN-1: 44 kDa.

Positive Controls: mouse brain extract: sc-2253, rat brain extract: sc-2392 or rat heart extract: sc-2393.

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.

DATA



PN-1 (D-18): sc-32454. Western blot analysis of PN-1 expression in rat brain (A), mouse brain (B) and rat heart (C) tissue extracts and 804G whole cell lysate (D).

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.