

PN-1 (Y-20): sc-32456

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 (Y-20) 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-32456 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 (Y-20) 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), 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 (Y-20) is also recommended for detection of PN-1 in additional species, including equine, canine, bovine, porcine and avian.

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) 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.

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.