

Pin1 (A-20): sc-7412

BACKGROUND

NIMA was originally shown in *Aspergillus nidulans* to be necessary for entry into mitosis. NIMA-related mammalian proteins have since been identified as Nek1, Nek2 and Nek3. High expression of Nek1 is seen in male and female germ cell lines of mouse. Nek2 is the closest known mammalian relative to NIMA. Like NIMA, Nek2 expression peaks at the G2 to M phase transition. Pin1 was originally identified as a NIMA-interacting protein. Pin1 is a peptidyl-prolyl cis/trans isomerase (PPIase), which specifically binds to phosphoserine-proline or phosphothreonine-proline bonds in mitotic phosphoproteins. While previously identified PPIases have been shown to be involved in protein folding, assembly and transport, Pin1 is the first PPIase to be identified as a required protein for cell viability.

REFERENCES

- Osmani, S.A., et al. 1988. Mitotic induction and maintenance by overexpression of a G₂-specific gene that encodes a potential protein kinase. *Cell* 53: 237-244.
- Letwin, K., et al. 1992. A mammalian dual specificity protein kinase, Nek1, is related to the NIMA cell cycle regulator and highly expressed in meiotic germ cells. *EMBO J.* 11: 3521-3531.
- Schultz, S.J., et al. 1994. Cell cycle-dependent expression of Nek2, a novel human protein kinase related to the NIMA mitotic regulator of *Aspergillus nidulans*. *Cell Growth Differ.* 5: 625-635.
- Lu, K.P., et al. 1996. A human peptidyl-prolyl isomerase essential for regulation of mitosis. *Nature* 380: 544-547.
- Yaffe, M.B., et al. 1997. Sequence-specific and phosphorylation-dependent proline isomerization: a potential mitotic regulatory mechanism. *Science* 278: 1957-1960.
- Ranganathan, R., et al. 1997. Structural and functional analysis of the mitotic rotamase Pin1 suggests substrate recognition is phosphorylation dependent. *Cell* 89: 875-886.

CHROMOSOMAL LOCATION

Genetic locus: PIN1 (human) mapping to 19p13; Pin1 (mouse) mapping to 9 A3.

SOURCE

Pin1 (A-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Pin1 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-7412 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

Pin1 (A-20) is recommended for detection of Pin1 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).

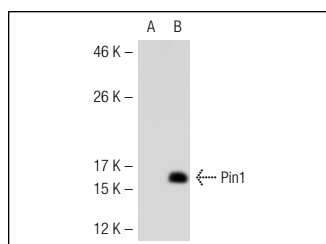
Pin1 (A-20) is also recommended for detection of Pin1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Pin1 siRNA (h): sc-36230, Pin1 siRNA (m): sc-36231, Pin1 shRNA Plasmid (h): sc-36230-SH, Pin1 shRNA Plasmid (m): sc-36231-SH, Pin1 shRNA (h) Lentiviral Particles: sc-36230-V and Pin1 shRNA (m) Lentiviral Particles: sc-36231-V.

Molecular Weight of Pin1: 20 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, K-562 nuclear extract: sc-2130 or Pin1 (m): 293T Lysate: sc-122584.

DATA



Pin1 (A-20): sc-7412. Western blot analysis of Pin1 expression in non-transfected: sc-117752 (A) and mouse Pin1 transfected: sc-122584 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

- Hamdane, M., et al. 2002. Pin1. A therapeutic target in Alzheimer neurodegeneration. *J. Mol. Neuro.* 19: 275-287.

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.



Try **Pin1 (G-8): sc-46660** or **Pin1 (E-5): sc-365028**, our highly recommended monoclonal alternatives to Pin1 (A-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Pin1 (G-8): sc-46660**.