

Pin1 (m): 293T Lysate: sc-122584

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 (PPlase), which specifically binds to phosphoserine-proline or phosphothreonine-proline bonds in mitotic phosphoproteins. While previously identified PPlases have been shown to be involved in protein folding, assembly and transport, Pin1 is the first PPlase to be identified as a required protein for cell viability.

REFERENCES

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- 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.
- Rhee, K., et al. 1997. The NIMA-related kinase 2, Nek2, is expressed in specific stages of the meiotic cell cycle and associates with meiotic chromosomes. *Development* 124: 2167-2177.
- Fry, A.M., et al. 1997. Characterization of mammalian DNA-related kinases. *Methods Enzymol.* 283: 270-282.

CHROMOSOMAL LOCATION

Genetic locus: Pin1 (mouse) mapping to 9 A3.

PRODUCT

Pin1 (m): 293T Lysate represents a lysate of mouse Pin1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

Pin1 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive Pin1 antibodies. Recommended use: 10-20 µl per lane.

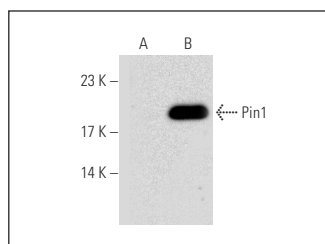
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Pin1 (F-7): sc-271441 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse Pin1 expression in Pin1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

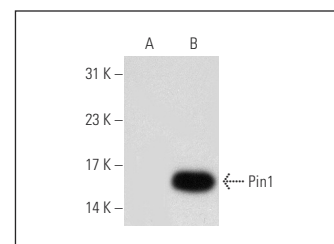
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



Pin1 (F-7): sc-271441. Western blot analysis of Pin1 expression in non-transfected: sc-117752 (A) and mouse Pin1 transfected: sc-122584 (B) 293T whole cell lysates.



Pin1 (E-5): sc-365028. Western blot analysis of Pin1 expression in non-transfected: sc-117752 (A) and mouse Pin1 transfected: sc-122584 (B) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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