SANTA CRUZ BIOTECHNOLOGY, INC.

Pin1 (G-8): sc-46660

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 G_2 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 phosphoser-ine- 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.

CHROMOSOMAL LOCATION

Genetic locus: PIN1 (human) mapping to 19p13.2; Pin1 (mouse) mapping to 9 A3.

SOURCE

Pin1 (G-8) is a mouse monoclonal antibody raised against amino acids 41-163 mapping at the C-terminus of Pin1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Pin1 (G-8) is available conjugated to agarose (sc-46660 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-46660 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-46660 PE), fluorescein (sc-46660 FITC), Alexa Fluor® 488 (sc-46660 AF488), Alexa Fluor® 546 (sc-46660 AF546), Alexa Fluor® 594 (sc-46660 AF594) or Alexa Fluor® 647 (sc-46660 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-46660 AF680) or Alexa Fluor® 790 (sc-46660 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Pin1 (G-8) is recommended for detection of Pin1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:5000), 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).

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.

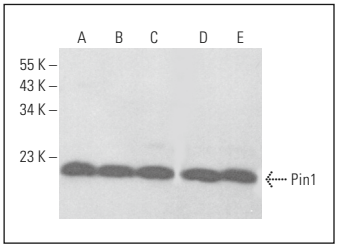
Molecular Weight of Pin1: 20 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136, A-431 whole cell lysate: sc-2201 or A549 cell lysate: sc-2413.

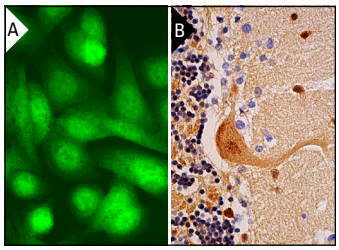
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



Pin1 (G-8): sc-46660. Western blot analysis of Pin1 expression in HEK293 (**A**), A-431 (**B**), A549 (**C**), OVCAR-3 (**D**) and HeLa (**E**) whole cell lysates.



Pin1 (G-8) Alexa Fluor® 488: sc-46660 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing nuclear and cytoplasmic local-ization. Blocked with UltraCruz® Blocking Reagent: sc-516214 (**A**). Pin1 (G-8): sc-46660. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing nuclear and cytoplasmic staining of purkinje cells and nuclear staining of cells in molecular layer (**B**).

SELECT PRODUCT CITATIONS

1. Siepe, D. and Jentsch, S. 2009. Prolyl isomerase Pin1 acts as a switch to control the degree of substrate ubiquitylation. Nat. Cell Biol. 11: 967-972.
2. Russo Spena, C., et al. 2018. Liposomal delivery of a Pin1 inhibitor com-plexed with cyclodextrins as new therapy for high-grade serous ovarian cancer. J. Control. Release 281: 1-10.
3. Park, J.S., et al. 2019. Brain somatic mutations observed in Alzheimer's disease associated with aging and dysregulation of Tau phosphorylation. Nat. Commun. 10: 3090.
4. Werwein, E., et al. 2020. Intramolecular interaction of B-Myb is regulated through Ser-577 phosphorylation. FEBS Lett. 594: 4266-4279.
5. Nakatsu, Y., et al. 2021. Prolyl isomerase Pin1 interacts with adipose triglyceride lipase and negatively controls both its expression and lipolysis. Metabolism 115: 154459.
6. Saeidi, S., et al. 2022. Peptidyl-prolyl cis-trans isomerase NIMA-interacting 1 directly binds and stabilizes Nrf2 in breast cancer. FASEB J. 36: e22068.
7. Yu, Q., et al. 2023. Overexpression of TPL2 may be a predictor of good prognosis in patients with breast invasive ductal carcinoma. Sci. Rep. 13: 17346.
8. Ke, S., et al. 2024. Reciprocal antagonism of Pin1-APC/CCDH1 governs mitotic protein stability and cell cycle entry. Nat. Commun. 15: 3220.
9. Chou, C.H., et al. 2025. The cyclin-dependent kinase 8 inhibitor E966-0530-45418 attenuates pulmonary fibrosis *in vitro* and *in vivo*. Int. J. Biol. Sci. 21: 685-707.

RESEARCH USE

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