SANTA CRUZ BIOTECHNOLOGY, INC.

Nek7 (B-5): sc-393539

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 Nek1-4 and Nek6-9. High expression of Nek1 is seen in male and female germ cell lines of mice. Nek2 is the closest known mammalian relative to NIMA. Like NIMA, Nek2 expression peaks at the G_2 to M phase transition. Nek3, Nek6, Nek7 and Nek9 also regulate mitosis. Nek1 and Nek8 have been linked with polycystic kidney disease, and Nek4 expression is present in most primary carcinomas. Nek7 localizes to the cytoplasm and is highly expressed in lung, testis, muscle, slpeen, heart, liver, leukocyte and brain. Lower expression of Nek7 is detected in the ovary, prostate and kidney, while no expression is seen in small intestine.

REFERENCES

1. Osmani, S.A., et al. 1988. Mitotic induction and maintenance by overexpression of a G_2-specific gene that encodes a potential protein kinase. Cell 53: 237-244.
2. 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.

CHROMOSOMAL LOCATION

Genetic locus: NEK7 (human) mapping to 1q31.3; Nek7 (mouse) mapping to 1 E4.

SOURCE

Nek7 (B-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1-26 at the N-terminus of Nek7 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Nek7 (B-5) is available conjugated to agarose (sc-393539 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393539 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393539 PE), fluorescein (sc-393539 FITC), Alexa Fluor® 488 (sc-393539 AF488), Alexa Fluor® 546 (sc-393539 AF546), Alexa Fluor® 594 (sc-393539 AF594) or Alexa Fluor® 647 (sc-393539 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393539 AF680) or Alexa Fluor® 790 (sc-393539 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393539 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

Nek7 (B-5) is recommended for detection of Nek7 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

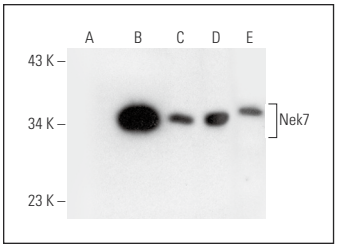
Nek7 (B-5) is also recommended for detection of Nek7 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Nek7 siRNA (h): sc-61174, Nek7 siRNA (m): sc-61175, Nek7 shRNA Plasmid (h): sc-61174-SH, Nek7 shRNA Plasmid (m): sc-61175-SH, Nek7 shRNA (h) Lentiviral Particles: sc-61174-V and Nek7 shRNA (m) Lentiviral Particles: sc-61175-V.

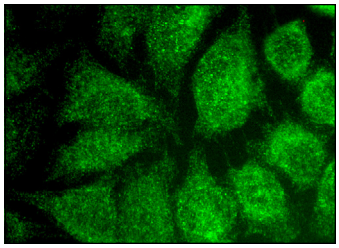
Molecular Weight of Nek7: 35 kDa.

Positive Controls: Nek7 (m): 293T Lysate: sc-122001, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

DATA



Nek7 (B-5): sc-393539. Western blot analysis of Nek7 expression in non-transfected 293T: sc-117752 (**A**), mouse Nek7 transfected 293T: sc-122001 (**B**), HeLa (**C**), Jurkat (**D**) and NIH/3T3 (**E**) whole cell lysates.



Nek7 (B-5): sc-393539. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization.

SELECT PRODUCT CITATIONS

1. Viau, A., et al. 2018. Cilia-localized LKB1 regulates chemokine signaling, macrophage recruitment, and tissue homeostasis in the kidney. EMBO J. 37: e98615.
2. Li, M., et al. 2021. Oridonin ameliorates noise-induced hearing loss by blocking NLRP3-Nek7 mediated inflammasome activation. Int. Immunopharmacol. 95: 107576.
3. Fujimoto, M., et al. 2022. HSF1 phosphorylation establishes an active chromatin state via the TRRAP-TIP60 complex and promotes tumorigenesis. Nat. Commun. 13: 4355.
4. Sheng, M., et al. 2023. Caspase 6/NR4A1/SOX9 signaling axis regulates hepatic inflammation and pyroptosis in ischemia-stressed fatty liver. Cell Death Discov. 9: 106.
5. Lee, S., et al. 2024. Aiouea padiformis extract exhibits anti-inflammatory effects by inhibiting the ATPase activity of NLRP3. Sci. Rep. 14: 5237.

RESEARCH USE

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