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Nek7 (m): 293T Lysate: sc-122001

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 G₂ 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, spleen, 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

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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.
- Rhee, K. and Wolgemuth, D.J. 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. and Nigg, E.A. 1997. Characterization of mammalian DNA-related kinases. *Methods Enzymol.* 283: 270-282.
- Tanaka, K. and Nigg, E.A. 1999. Cloning and characterization of the murine Nek3 protein kinase, a novel member of the NIMA family of putative cell cycle regulators. *J. Biol. Chem.* 274: 13491-13497.
- Chen, A., et al. 1999. NIMA-related kinases: isolation and characterization of murine nek3 and nek4 cDNAs, and chromosomal localization of nek1, nek2 and nek3. *Gene* 234: 127-137.
- Kimura, M. and Okano, Y. 2001. Identification and assignment of the human NIMA-related protein kinase 7 gene (NEK7) to human chromosome 1q31.3. *Cytogenet. Cell Genet.* 94: 33-38.

CHROMOSOMAL LOCATION

Genetic locus: Nek7 (mouse) mapping to 1 E4.

PRODUCT

Nek7 (m): 293T Lysate represents a lysate of mouse Nek7 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

Nek7 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive Nek7 antibodies. Recommended use: 10-20 µl per lane.

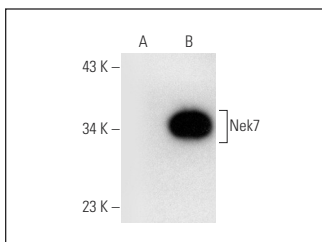
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Nek7 (B-5): sc-393539 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse Nek7 expression in Nek7 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

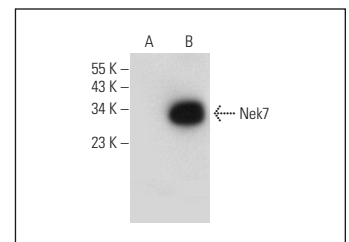
RECOMMENDED SUPPORT REAGENTS

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



Nek7 (B-5): sc-393539. Western blot analysis of Nek7 expression in non-transfected: sc-117752 (A) and mouse Nek7 transfected: sc-122001 (B) 293T whole cell lysates.



Nek7 (A-12): sc-398439. Western blot analysis of Nek7 expression in non-transfected: sc-117752 (A) and mouse Nek7 transfected: sc-122001 (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.