

Nek6 (m): 293T Lysate: sc-127216

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. Nek6 localizes to the cytoplasm and is expressed ubiquitously, with highest expression observed in the heart and skeletal muscle. It is activated during M phase and is required for chromosome segregation at the metaphase-anaphase transition and, consequently, mitotic progression.

REFERENCES

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- Schultz, S.J., Fry, A.M., Sutterlin, C., Ried, T. and Nigg, E.A. 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.
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- 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.
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- Yin, M.J., Shao, L., Voehringer, D., Smeal, T. and Jallal, B. 2003. The serine/threonine kinase Nek6 is required for cell cycle progression through mitosis. *J. Biol. Chem.* 278: 52454-52460.

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.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: Nek6 (mouse) mapping to 2 B.

PRODUCT

Nek6 (m): 293T Lysate represents a lysate of mouse Nek6 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

Nek6 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive Nek6 antibodies. Recommended use: 10-20 µl per lane.

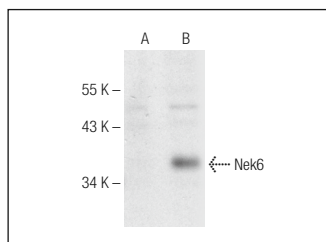
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Nek6 (D-7): sc-374491 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse Nek6 expression in Nek6 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

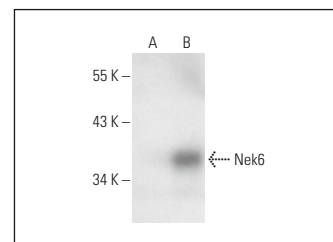
RECOMMENDED SUPPORT REAGENTS

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



Nek6 (D-7): sc-374491. Western blot analysis of Nek6 expression in non-transfected: sc-117752 (A) and mouse Nek6 transfected: sc-127216 (B) 293T whole cell lysates.



Nek6 (A-6): sc-393837. Western blot analysis of Nek6 expression in non-transfected: sc-117752 (A) and mouse Nek6 transfected: sc-127216 (B) 293T whole cell lysates.

RESEARCH USE

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