

Nek6 (A-6): sc-393837

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 Nek 6–9. 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., 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.
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- 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.
- Yin, M.J., et al. 2003. The serine/threonine kinase Nek6 is required for cell cycle progression through mitosis. *J. Biol. Chem.* 278: 52454-52460.

CHROMOSOMAL LOCATION

Genetic locus: NEK6 (human) mapping to 9q33.3; Nek6 (mouse) mapping to 2 B.

SOURCE

Nek6 (A-6) is a mouse monoclonal antibody raised against amino acids 1-50 mapping at the N-terminus of Nek6 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.

APPLICATIONS

Nek6 (A-6) is recommended for detection of Nek6 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).

Suitable for use as control antibody for Nek6 siRNA (h): sc-61172, Nek6 siRNA (m): sc-61173, Nek6 shRNA Plasmid (h): sc-61172-SH, Nek6 shRNA Plasmid (m): sc-61173-SH, Nek6 shRNA (h) Lentiviral Particles: sc-61172-V and Nek6 shRNA (m) Lentiviral Particles: sc-61173-V.

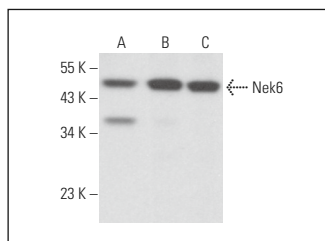
Molecular Weight of Nek6: 36 kDa.

Positive Controls: Nek6 (m): 293T Lysate: sc-127216, HeLa whole cell lysate: sc-2200 or A-10 cell lysate: sc-3806.

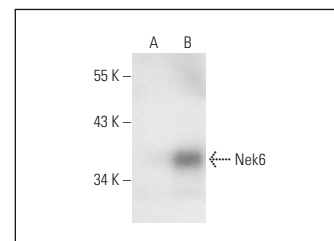
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Nek6 (A-6): sc-393837. Western blot analysis of Nek6 expression in HT-1080 (A), HeLa (B) and A-10 (C) 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.

STORAGE

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

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.