SANTA CRUZ BIOTECHNOLOGY, INC.

Nek3 (C-20): sc-7441

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, Nek3 and Nek4 (also designated STK2 or NRK2). 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. Nek3 is a predominantly cytoplasmic enzyme that was detectable in all organs studied. Levels of Nek3 seem to remain unchanged throughout the cell cycle, but appear to be elevated in G_0-arrested, quiescent fibroblasts. In developing testicular germ cells, differential patterns of expression were seen for Nek1, Nek2 and Nek4, indicating possible overlapping, but non-identical functions.

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: NEK3 (human) mapping to 13q14.3; Nek3 (mouse) mapping to 8 A2.

SOURCE

Nek3 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Nek3 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-7441 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Nek3 (C-20) is recommended for detection of Nek3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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); non cross-reactive with Nek1, Nek2 or Nek4.

Suitable for use as control antibody for Nek3 siRNA (h): sc-43550, Nek3 siRNA (m): sc-149905, Nek3 shRNA Plasmid (h): sc-43550-SH, Nek3 shRNA Plasmid (m): sc-149905-SH, Nek3 shRNA (h) Lentiviral Particles: sc-43550-V and Nek3 shRNA (m) Lentiviral Particles: sc-149905-V.

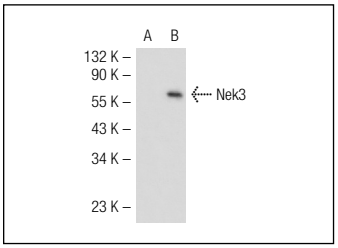
Molecular Weight of Nek3: 56 kDa.

Positive Controls: COLO 320DM cell lysate: sc-2226 or Nek3 (h): 293T Lysate: sc-113934.

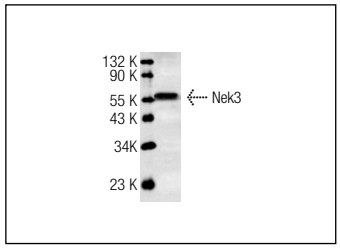
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Nek3 (C-20): sc-7441. Western blot analysis of Nek3 expression in non-transfected: sc-117752 (**A**) and human Nek3 transfected: sc-113934 (**B**) 293T whole cell lysates.



Nek3 (C-20): sc-7441. Western blot analysis of Nek3 expression in COLO 320DM whole cell lysate.

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 or our catalog for detailed protocols and support products.

MONOS Satisfaction Guaranteed

Try **Nek3 (E-10): sc-390872** or **Nek3 (9-7K): sc-100402**, our highly recommended monoclonal alternatives to Nek3 (C-20).