SANTA CRUZ BIOTECHNOLOGY, INC.

Nek10 (97.1): sc-100434

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

NIMA was originally discovered in *Aspergillus nidulans* as a protein that is necessary for entry into mitosis. Several NIMA-related mammalian proteins have since been identified. Nek10 (NIMA (never in mitosis gene a)-related kinase 10) is a 712 amino acid protein belonging to the NIMA subfamily of kinases and functions as a magnesium-dependent serine/threonine protein kinase. Kinases of the NIMA subfamily are typically involved in genotoxic stress response and DNA replication. Nek10 is expressed in brain and may contain a 14-3-3 interaction motif in its C-terminus. The gene encoding Nek10 has been localized to a region on chromosome 3 that may contribute to vulnerability to addictions. Due to alternative splicing events, three isoforms exist for Nek10.

REFERENCES

1. Hanks, S.K. 2003. Genomic analysis of the eukaryotic protein kinase superfamily: a perspective. Genome Biol. 4: 111.
2. Caenepeel, S., et al. 2004. The mouse kinome: discovery and comparative genomics of all mouse protein kinases. Proc. Natl. Acad. Sci. USA 101: 11707-11712.
3. Roig, J., et al. 2005. Active Nercc1 protein kinase concentrates at centrosomes early in mitosis and is necessary for proper spindle assembly. Mol. Biol. Cell 16: 4827-4840.
4. Cloutier, M., et al. 2005. Characterization of a poplar NIMA-related kinase PNek1 and its potential role in meristematic activity. FEBS Lett. 579: 4659-4665.
5. Parker, J.D., et al. 2007. Phylogenetic analysis of the neks reveals early diversification of ciliary-cell cycle kinases. PLoS ONE 2: e1076.
6. O'regan, L., et al. 2007. Mitotic regulation by NIMA-related kinases. Cell Div. 2: 25.
7. Ishiguro, H., et al. 2007. Variation in a bicarbonate co-transporter gene family member SLC4A7 is associated with propensity to addictions: a study using fine-mapping and three samples. Addiction 102: 1320-1325.

CHROMOSOMAL LOCATION

Genetic locus: Nek10 (human) mapping to 3p24.1; Nek10 (mouse) mapping to 14 A2.

SOURCE

Nek10 (97.1) is a mouse monoclonal antibody raised against recombinant Nek10 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

Nek10 (97.1) is recommended for detection of Nek10 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), immunohistochemistry (including paraffin-embedded sections) (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 Nek10 siRNA (h): sc-78343, Nek10 siRNA (m): sc-149903, Nek10 shRNA Plasmid (h): sc-78343-SH, Nek10 shRNA Plasmid (m): sc-149903-SH, Nek10 shRNA (h) Lentiviral Particles: sc-78343-V and Nek10 shRNA (m) Lentiviral Particles: sc-149903-V.

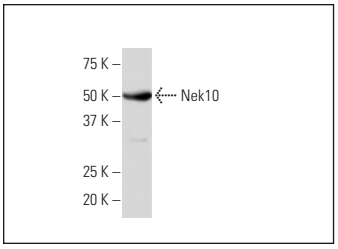
Molecular Weight of Nek10: 82 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

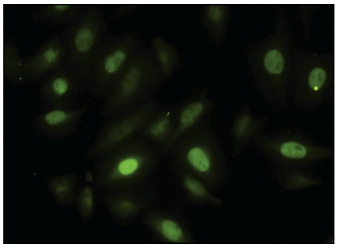
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Nek10 (97.1): sc-100434. Western blot analysis of Nek10 expression in HeLa whole cell lysate.



Nek10 (97.1): sc-100434. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Peres de Oliveira, A., et al. 2020. Nek10 interactome and depletion reveal new roles in mitochondria. Proteome Sci. 18: 4.

RESEARCH USE

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