SANTA CRUZ BIOTECHNOLOGY, INC.

Nek8 (K-24): sc-130826

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions in eukaryotes, including cell division, homeostasis and apoptosis. A group of proteins that are intimately involved in this process are the serine/threonine (Ser/Thr) protein kinases. Nek8 [NIMA (never in mitosis gene a)- related kinase 8], also known as serine/threonine-protein kinase Nek8, NPHP9, NEK12A, MGC138445, Jck or NEK12A, is a mitotic regulator that plays a significant role in maintaining renal tubular integrity. Nek8 localizes to cytoplasm and is abundant in thyroid, adrenal gland and skin, with overexpression in breast tumors and infiltrating ductal carcinomas. Moderate levels of Nek8 has been found in mucinous adenocarcinoma. Nek8 contains one protein kinase domain and five RCC1 repeats. Nek8 mutations correlate to juvenile autosomal recessive polycystic kidney disease in humans.

REFERENCES

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2. O'Connell, M.J., et al. 2003. Never say never. The NIMA-related protein kinases in mitotic control. Trends Cell Biol. 13: 221-228.
3. Bowers, A.J. and Boylan, J.F. 2004. Nek8, a NIMA family kinase member, is overexpressed in primary human breast tumors. Gene 328: 135-142.
4. Mahjoub, M.R., et al. 2005. NIMA-related kinases defective in murine models of polycystic kidney diseases localize to primary cilia and centrosomes. J. Am. Soc. Nephrol. 16: 3485-3489.
5. Quarmby, L.M. and Mahjoub, M.R. 2005. Caught Nek-ing: cilia and centrioles. J. Cell Sci. 118 (Pt. 22): 5161-5169.
6. Valkova, N., et al. 2005. Nek8 mutation causes overexpression of galectin-1, sorcin, and vimentin and accumulation of the major urinary protein in renal cysts of jck mice. Mol. Cell. Proteomics 4: 1009-1018.
7. Smith, L.A., et al. 2006. Development of polycystic kidney disease in juvenile cystic kidney mice: insights into pathogenesis, ciliary abnormalities, and common features with human disease. J. Am. Soc. Nephrol. 17: 2821-2831.
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9. Online Mendelian Inheritance in Man, OMIM™. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 609799. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

STORAGE

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

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: NEK8 (human) mapping to 17q11.2.

SOURCE

Nek8 (K-24) is a purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of Nek8 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Nek8 (K-24) is recommended for detection of Nek8 of 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Nek8 siRNA (h): sc-61176, Nek8 shRNA Plasmid (h): sc-61176-SH and Nek8 shRNA (h) Lentiviral Particles: sc-61176-V.

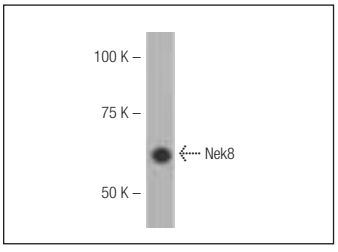
Molecular Weight of Nek8: 75 kDa.

Positive Controls: A2058 whole cell lysate.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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).

DATA



Nek8 (K-24): sc-130826. Western blot analysis of Nek8 expression in A2058 whole cell lysate.

RESEARCH USE

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