

# Nek8 (L-20): sc-50760

## 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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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.
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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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## CHROMOSOMAL LOCATION

Genetic locus: NEK8 (human) mapping to 17q11.2; Nek8 (mouse) mapping to 11 B5.

## SOURCE

Nek8 (L-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Nek8 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-50760 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Nek8 (L-20) is recommended for detection of Nek8 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Nek8 (L-20) is also recommended for detection of Nek8 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Nek8 siRNA (h): sc-61176, Nek8 siRNA (m): sc-61177, Nek8 shRNA Plasmid (h): sc-61176-SH, Nek8 shRNA Plasmid (m): sc-61177-SH, Nek8 shRNA (h) Lentiviral Particles: sc-61176-V and Nek8 shRNA (m) Lentiviral Particles: sc-61177-V.

Molecular Weight of Nek8: 75 kDa.

Positive Controls: A2058 whole cell lysate: sc-364178.

## 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) 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.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.