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NEK7 Antibody (internal region)

Peptide-affinity purified goat antibody
Catalog # AF3391a

Specification

NEK7 Antibody (internal region) - Product Information

Application	**WB, E**
Primary Accession	Q8TDX7
Other Accession	NP_598001.1, 140609, 59125 (mouse), 360850 (rat)
Reactivity	**Human**
Predicted	**Mouse, Rat, Dog**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**0.5 mg/ml**
Isotype	**IgG**
Calculated MW	**34551**

NEK7 Antibody (internal region) - Additional Information

Gene ID 140609

Other Names
Serine/threonine-protein kinase Nek7, 2.7.11.1, Never in mitosis A-related kinase 7, NimA-related protein kinase 7, NEK7

Dilution
WB~~1:1000
E~~N/A

Format
0.5 mg/ml in Tris saline, 0.02% sodium azide, pH7.3 with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
NEK7 Antibody (internal region) is for research use only and not for use in diagnostic or therapeutic procedures.

NEK7 Antibody (internal region) - Protein Information

Name NEK7 {ECO:0000303|PubMed:11701951, ECO:0000312|HGNC:HGNC:13386}

Function
Protein kinase which plays an important role in mitotic cell cycle progression (PubMed:<a

href="http://www.uniprot.org/citations/17101132" target="_blank">17101132, PubMed:19941817, PubMed:31409757). Required for microtubule nucleation activity of the centrosome, robust mitotic spindle formation and cytokinesis (PubMed:17586473, PubMed:19414596, PubMed:19941817, PubMed:26522158, PubMed:31409757). Phosphorylates EML4 at 'Ser-146', promoting its dissociation from microtubules during mitosis which is required for efficient chromosome congression (PubMed:31409757). Phosphorylates RPS6KB1 (By similarity). Acts as an essential activator of the NLRP3 inflammasome assembly independently of its kinase activity (PubMed:26642356, PubMed:36442502, PubMed:39173637). Acts by unlocking NLRP3 following NLRP3 tranlocation into the microtubule organizing center (MTOC), relieving NLRP3 autoinhibition and promoting formation of the NLRP3:PYCARD complex, and activation of CASP1 (PubMed:26642356, PubMed:31189953, PubMed:36442502, PubMed:39173637). Serves as a cellular switch that enforces mutual exclusivity of the inflammasome response and cell division: interaction with NEK9 prevents interaction with NLRP3 and activation of the inflammasome during mitosis (PubMed:26642356, PubMed:31189953).

Cellular Location
Nucleus {ECO:0000250|UniProtKB:Q9ES74}. Cytoplasm. Cytoplasm, cytoskeleton, spindle pole. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Note=Present at centrosome throughout the cell cycle (PubMed:17586473). Also detected at spindle midzone of the anaphase cells and eventually concentrates at the midbody (PubMed:17586473). Interaction with ANKS3 prevents its translocation to the nucleus (By similarity). {ECO:0000250|UniProtKB:Q9ES74, ECO:0000269|PubMed:17586473}

Tissue Location
Highly expressed in lung, muscle, testis, brain, heart, liver, leukocyte and spleen. Lower expression in ovary, prostate and kidney. No expression seen in small intestine

NEK7 Antibody (internal region) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

NEK7 Antibody (internal region) - Images

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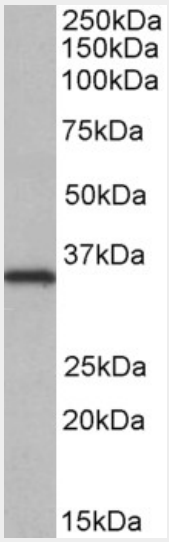

AF3391a (0.05 µg/ml) staining of HeLa lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

NEK7 Antibody (internal region) - References

Centrosome-related genes, genetic variation, and risk of breast cancer. Olson JE, Wang X, Pankratz VS, Fredericksen ZS, Vachon CM, Vierkant RA, Cerhan JR, Couch FJ, Breast Cancer Res Treat. 2011 Jan;125(1):221-8. PMID: 20508983