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NEK7 Antibody (Kinase Domain)
Rabbit Polyclonal Antibody
Catalog # ALS10888

Specification

NEK7 Antibody (Kinase Domain) - Product Information

Application	**IHC-P**
Primary Accession	Q8TDX7
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Calculated MW	**35kDa KDa**
Dilution	**IHC-P~~N/A**

NEK7 Antibody (Kinase Domain) - 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

Target/Specificity
Human NEK7. BLAST analysis of the peptide immunogen showed no homology with other human proteins.

Reconstitution & Storage
Long term: -70°C; Short term: +4°C

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

NEK7 Antibody (Kinase Domain) - 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: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:<a href="http://www.uniprot.org/citations/31409757"

target="_blank">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

Volume
50 µl

NEK7 Antibody (Kinase Domain) - 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 (Kinase Domain) - Images

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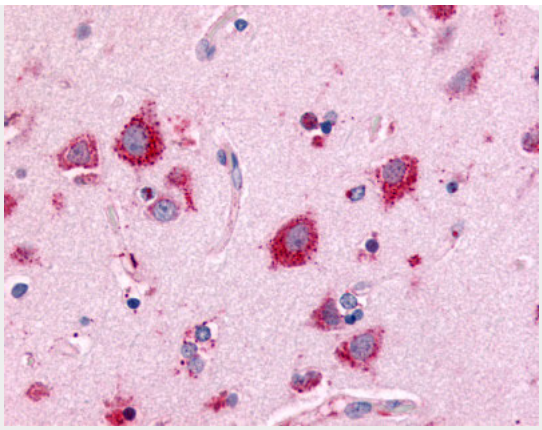
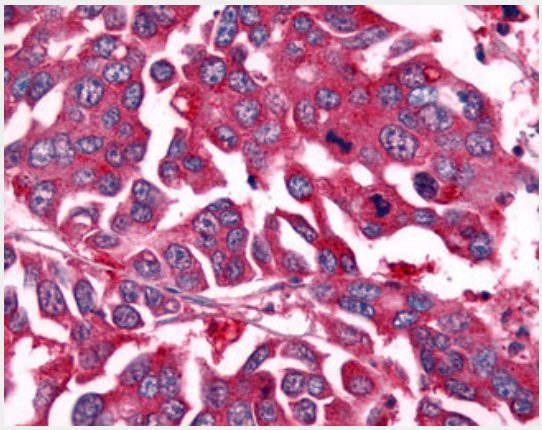


Anti-NEK7 antibody ALS10888 IHC of human brain, neurons and glia.



Anti-NEK7 antibody IHC of human Colon, Carcinoma.

NEK7 Antibody (Kinase Domain) - Background

Protein kinase which plays an important role in mitotic cell cycle progression. Required for microtubule nucleation activity of the centrosome, robust mitotic spindle formation and cytokinesis. Phosphorylates RPS6KB1.

NEK7 Antibody (Kinase Domain) - References

Kimura M.,et al.Cytogenet. Cell Genet. 94:33-38(2001).
Melton D.,et al.Submitted (MAR-2004) to the EMBL/GenBank/DDBJ databases.
Gregory S.G.,et al.Nature 441:315-321(2006).
Mural R.J.,et al.Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.
Belham C.,et al.J. Biol. Chem. 278:34897-34909(2003).