

NEK7 Rabbit pAb

Catalog # AP100207

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q8TDX7
Other Accession	Q8TDX7
Host	Rabbit
Clonality	Polyclonal
Calculated MW	34551
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human NEK7
Epitope Specificity	101-200/302
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the protein kinase superfamily. NEK Ser/Thr protein kinase family. NIMA subfamily. Contains 1 protein kinase domain.
SUBUNIT	Monomer. Interacts with NEK9.
Post-translational modifications	Phosphorylation at Ser-195 required for its activation.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Tissue specificity: Highly expressed in lung, muscle, testis, brain, heart, liver, leukocyte and spleen. Lower expression in ovary, prostate and kidney.

Additional Information

Gene ID	140609
Other Names	NEK7_HUMAN; NEK7; Never in mitosis A-related kinase 7 (NimA-related protein kinase 7); 2.7.11.34; NIMA related kinase 7; NIMA (never in mitosis gene a)-related kinase 7
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

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:[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 translocation 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](#), PubMed:[40450990](#)). 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

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.