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NEK7 Antibody

Rabbit mAb
Catalog # AP92261

Product Information

Application	WB, FC
Primary Accession	Q8TDX7
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Other Names	NEK7; NimA related protein kinase 7;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	34551

Additional Information

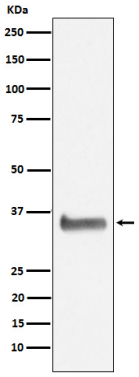
Dilution	WB 1:500~1:2000 FC 1:50
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human NEK7
Description	Protein kinase which plays an important role in mitotic cell cycle progression. Required for microtubule nucleation activity of the centrosome, robust mitotic spindle formation and cytokinesis. Phosphorylates RPS6KB1.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

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 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, 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

Images



Western blot analysis of NEK7 expression in Jurkat cell lysate.

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