

NEK7 Rabbit mAb

Catalog # AP77058

Product Information

Application	WB, FC
Primary Accession	Q8TDX7
Reactivity	Rat, Human, Mouse
Host	Rabbit
Clonality	Monoclonal Antibody
Isotype	IgG
Conjugate	Unconjugated
Immunogen	A synthesized peptide derived from human NEK7
Purification	Affinity Purified
Calculated MW	34551

Additional Information

Gene ID	140609
Other Names	NEK7
Dilution	WB~~1/500-1/1000 FC~~1:10~50
Format	Liquid in 10mM PBS, pH 7.4, 150mM sodium chloride, 0.05% BSA, 0.02% sodium azide and 50% glycerol.
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

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](#)).

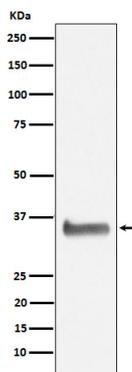
Cellular Location

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

Images



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