

# NEK7 Antibody

Rabbit mAb

Catalog # AP92261

## Product Information

<b>Application</b>	WB, FC
<b>Primary Accession</b>	<a href="#">Q8TDX7</a>
<b>Reactivity</b>	Rat, Human, Mouse
<b>Clonality</b>	Monoclonal
<b>Other Names</b>	NEK7; NimA related protein kinase 7;
<b>Isotype</b>	Rabbit IgG
<b>Host</b>	Rabbit
<b>Calculated MW</b>	34551

## Additional Information

<b>Dilution</b>	WB 1:500~1:2000 FC 1:50
<b>Purification</b>	Affinity-chromatography
<b>Immunogen</b>	A synthesized peptide derived from human NEK7
<b>Description</b>	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.
<b>Storage Condition and Buffer</b>	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

<b>Name</b>	NEK7 {ECO:0000303   PubMed:11701951, ECO:0000312   HGNC:HGNC:13386}
<b>Function</b>	Protein kinase which plays an important role in mitotic cell cycle progression (PubMed: <a href="#">17101132</a> , PubMed: <a href="#">19941817</a> , PubMed: <a href="#">31409757</a> ). Required for microtubule nucleation activity of the centrosome, robust mitotic spindle formation and cytokinesis (PubMed: <a href="#">17586473</a> , PubMed: <a href="#">19414596</a> , PubMed: <a href="#">19941817</a> , PubMed: <a href="#">26522158</a> , PubMed: <a href="#">31409757</a> ). Phosphorylates EML4 at 'Ser-146', promoting its dissociation from microtubules during mitosis which is required for efficient chromosome congression (PubMed: <a href="#">31409757</a> ). Phosphorylates RPS6KB1 (By similarity). Acts as an essential activator of the NLRP3 inflammasome assembly independently of its kinase activity (PubMed: <a href="#">26642356</a> , PubMed: <a href="#">36442502</a> , PubMed: <a href="#">39173637</a> ). 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: <a href="#">26642356</a> , PubMed: <a href="#">31189953</a> , PubMed: <a href="#">36442502</a> , PubMed: <a href="#">39173637</a> ). 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

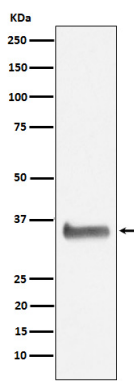
Nucleus {ECO:0000250|UniProtKB:Q9ES74}. Cytoplasm. Cytoplasm, cytoskeleton, spindle pole. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Note=Present at centrosome throughout the cell cycle (PubMed:17586473). Also detected at spindle midzone of the anaphase cells and eventually concentrates 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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Western blot analysis of NEK7 expression in Jurkat cell lysate.

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