10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

NEK7 Antibody (N-term) Blocking Peptide
Synthetic peptide
Catalog # BP8078a

Specification

NEK7 Antibody (N-term) Blocking Peptide - Product Information

Primary Accession Q8TDX7

NEK7 Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 140609

Other Names
Serine/threonine-protein kinase Nek7, Never in mitosis A-related kinase 7, NimA-related protein kinase 7, NEK7

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP8078a was selected from the N-term region of human NEK7 . A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

NEK7 Antibody (N-term) Blocking Peptide - 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:31409757, PubMed:19941817). Required for microtubule nucleation activity of the centrosome, robust mitotic spindle formation and cytokinesis (PubMed:17586473, PubMed:19414596, PubMed:31409757, PubMed:19941817, PubMed:26522158). 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). 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). 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

NEK7 Antibody (N-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

NEK7 Antibody (N-term) Blocking Peptide - Images

NEK7 Antibody (N-term) Blocking Peptide - Background

NIMA-related kinases share high amino acid sequence identity with the gene product of the Aspergillus nidulans 'never in mitosis A' gene, which controls initiation of mitosis.[supplied by OMIM]

NEK7 Antibody (N-term) Blocking Peptide - References

Belham, C., et al., J. Biol. Chem. 278(37):34897-34909 (2003).Kimura, M., et al., Cytogenet. Cell Genet. 94 (1-2), 33-38 (2001).