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KD-Validated Anti-NEK7 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1261

Product Information

Application	WB, FC, ICC
Primary Accession	Q8TDX7
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Clone Names	23GB 2885
Calculated MW	34551
Gene Name	NEK7
Aliases	NIMA Related Kinase 7; NIMA (Never In Mitosis Gene A)-Related Kinase 7; Serine/Threonine-Protein Kinase Nek7; Never In Mitosis A-Related Kinase 7; NimA-Related Protein Kinase 7; EC 2.7.11.34; EC 2.7.11.1
Immunogen	A synthesized peptide derived from human NEK7

Additional Information

Gene ID	140609
Other Names	Serine/threonine-protein kinase Nek7, 2.7.11.34, Never in mitosis A-related kinase 7, NimA-related protein kinase 7, NEK7 {ECO:0000303|PubMed:11701951, ECO:0000312|HGNC:HGNC:13386}

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

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