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NEK1 Antibody (C-term) Blocking Peptide

Synthetic peptide
Catalog # BP8072b

Specification

NEK1 Antibody (C-term) Blocking Peptide - Product Information

Primary Accession Q96PY6

NEK1 Antibody (C-term) Blocking Peptide - Additional Information

Gene ID 4750

Other Names
Serine/threonine-protein kinase Nek1, Never in mitosis A-related kinase 1, NimA-related protein kinase 1, Renal carcinoma antigen NY-REN-55, NEK1, KIAA1901

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP8072b was selected from the C-term region of human NEK1 . 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.

NEK1 Antibody (C-term) Blocking Peptide - Protein Information

NEK1 Antibody (C-term) Blocking Peptide - Background

Protein kinases are enzymes that transfer a phosphate group from a phosphate donor, generally the g phosphate of ATP, onto an acceptor amino acid in a substrate protein. By this basic mechanism, protein kinases mediate most of the signal transduction in eukaryotic cells, regulating cellular metabolism, transcription, cell cycle progression, cytoskeletal rearrangement and cell movement, apoptosis, and differentiation. With more than 500 gene products, the protein kinase family is one of the largest families of proteins in eukaryotes. The family has been classified in 8 major groups based on sequence comparison of their tyrosine (PTK) or serine/threonine (STK) kinase catalytic domains. The STE group (homologs of yeast Sterile 7, 11, 20 kinases) consists of 50 kinases related to the mitogen-activated protein kinase (MAPK) cascade families (Ste7/MAP2K, Ste11/MAP3K, and Ste20/MAP4K). MAP kinase cascades, consisting of a MAPK and one or more upstream regulatory kinases (MAPKKs) have been best characterized in the yeast pheromone response pathway. Pheromones bind to Ste cell surface receptors and activate yeast MAPK pathway.

NEK1 Antibody (C-term) Blocking Peptide - References

Surpili, M.J., et al., Biochemistry 42(51):15369-15376 (2003).Scanlan, M.J., et al., Int. J. Cancer 83(4):456-464 (1999).Letwin, K., et al., EMBO J. 11(10):3521-3531 (1992).

Name NEK1

Synonyms KIAA1901

Function
Phosphorylates serines and threonines, but also appears to possess tyrosine kinase activity (PubMed:20230784). Involved in DNA damage checkpoint control and for proper DNA damage repair (PubMed:20230784). In response to injury that includes DNA damage, NEK1 phosphorylates VDAC1 to limit mitochondrial cell death (PubMed:20230784). May be implicated in the control of meiosis (By similarity). Involved in cilium assembly (PubMed:21211617).

Cellular Location
Nucleus. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome {ECO:0000250|UniProtKB:P51954}. Cytoplasm. Note=Associated with the pericentriolar material (PubMed:21211617). Localizes to centrosome during interphase and mitosis (By similarity). Translocated from cytoplasm to discrete nuclear foci at sites of DNA damage (PubMed:15604234) {ECO:0000250|UniProtKB:P51954, ECO:0000269|PubMed:15604234, ECO:0000269|PubMed:21211617}

Tissue Location
High fetal expression in the brain and kidney.

NEK1 Antibody (C-term) Blocking Peptide - Protocols

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

- Blocking Peptides