

NEK1 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP8072b

Product Information

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|--------------------------|------------------------|
| Application | IHC-P, WB, E |
| Primary Accession | Q96PY6 |
| Other Accession | P51954 |
| Reactivity | Human |
| Predicted | Mouse |
| Host | Rabbit |
| Clonality | Polyclonal |
| Isotype | Rabbit IgG |
| Clone Names | RB2957 |
| Calculated MW | 142828 |
| Antigen Region | 1165-1196 |

Additional Information

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|---------------------------|---|
| 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 | This NEK1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 1165-1196 amino acids from the C-terminal region of human NEK1. |
| Dilution | IHC-P~~1:100~500 WB~~1:1000 E~~Use at an assay dependent concentration. |
| Format | Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS. |
| Storage | Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles. |
| Precautions | NEK1 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures. |

Protein Information

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| Name | NEK1 |
| Synonyms | KIAA1901 |

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| 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. |

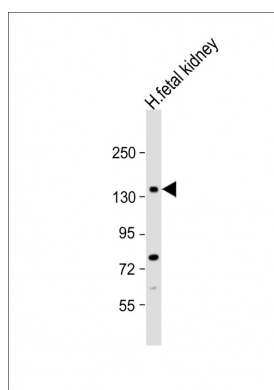
Background

Protein kinases are enzymes that transfer a phosphate group from a phosphate donor, generally the γ 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.

References

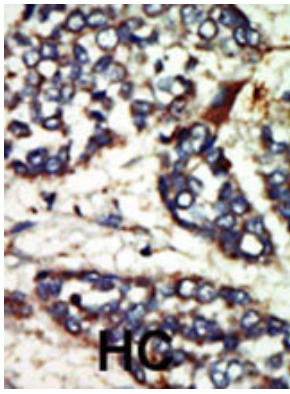
Surpili, M.J., et al., *Biochemistry* 42(51):15369-15376 (2003).
 Scanlan, M.J., et al., *Int. J. Cancer* 83(4):456-464 (1999).
 Letwin, K., et al., *EMBO J.* 11(10):3521-3531 (1992).

Images



Anti-NEK1 Antibody (C-term) at 1:500 dilution + human fetal kidney lysate Lysates/proteins at 20 μ g per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 143 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was



peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.