

NEK2 Antibody (Center)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8073c**Specification**

NEK2 Antibody (Center) - Product Information

Application	WB,E
Primary Accession	P51955
Other Accession	Q96QN9
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	51763
Antigen Region	350-382

NEK2 Antibody (Center) - Additional Information**Gene ID** 4751**Other Names**

Serine/threonine-protein kinase Nek2, HSPK 21, Never in mitosis A-related kinase 2, NimA-related protein kinase 2, NimA-like protein kinase 1, NEK2, NEK2A, NLK1

Target/Specificity

This NEK2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 350-382 amino acids from the Central region of human NEK2.

Dilution

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

NEK2 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

NEK2 Antibody (Center) - Protein Information**Name** NEK2

Synonyms NEK2A, NLK1

Function Protein kinase which is involved in the control of centrosome separation and bipolar spindle formation in mitotic cells and chromatin condensation in meiotic cells. Regulates centrosome separation (essential for the formation of bipolar spindles and high-fidelity chromosome separation) by phosphorylating centrosomal proteins such as CROCC, CEP250 and NINL, resulting in their displacement from the centrosomes. Regulates kinetochore microtubule attachment stability in mitosis via phosphorylation of NDC80. Involved in regulation of mitotic checkpoint protein complex via phosphorylation of CDC20 and MAD2L1. Plays an active role in chromatin condensation during the first meiotic division through phosphorylation of HMGA2. Phosphorylates: PPP1CC; SGO1; NECAB3 and NPM1. Essential for localization of MAD2L1 to kinetochore and MAPK1 and NPM1 to the centrosome. Phosphorylates CEP68 and CNTLN directly or indirectly (PubMed:[24554434](#)). NEK2-mediated phosphorylation of CEP68 promotes CEP68 dissociation from the centrosome and its degradation at the onset of mitosis (PubMed:[25704143](#)). Involved in the regulation of centrosome disjunction (PubMed:[26220856](#)). Phosphorylates CCDC102B either directly or indirectly which causes CCDC102B to dissociate from the centrosome and allows for centrosome separation (PubMed:[30404835](#)).

Cellular Location

[Isoform 1]: Nucleus. Nucleus, nucleolus. Cytoplasm. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cytoplasm, cytoskeleton, spindle pole Chromosome, centromere, kinetochore. Chromosome, centromere. Note=STK3/MST2 and SAV1 are required for its targeting to the centrosome. Colocalizes with SGO1 and MAD1L1 at the kinetochore Not associated with kinetochore in the interphase but becomes associated with it upon the breakdown of the nuclear envelope. Has a nucleolar targeting/ retention activity via a coiled-coil domain at the C-terminal end [Isoform 4]: Nucleus. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Note=Predominantly nuclear

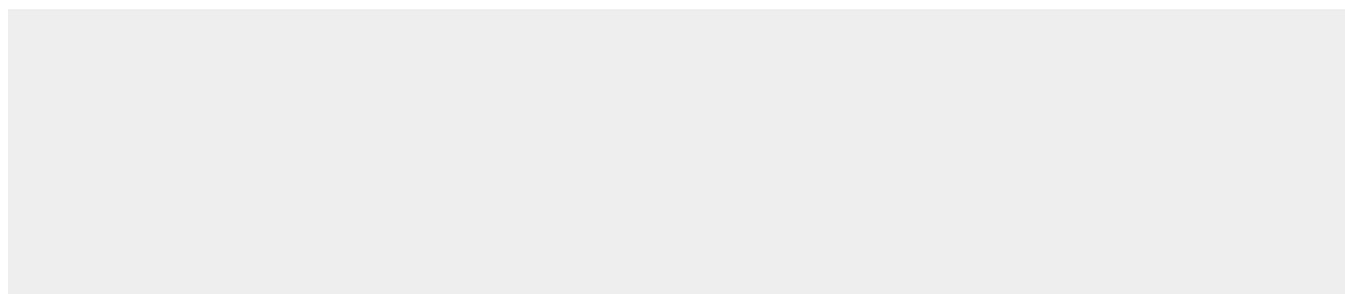
Tissue Location

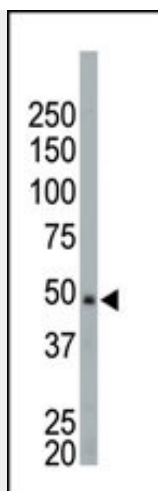
Isoform 1 and isoform 2 are expressed in peripheral blood T-cells and a wide variety of transformed cell types. Isoform 1 and isoform 4 are expressed in the testis. Up-regulated in various cancer cell lines, as well as primary breast tumors

NEK2 Antibody (Center) - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

NEK2 Antibody (Center) - Images



The anti-NEK2 Pab (Cat. #AP8073c) is used in Western blot to detect NEK2 in HeLa cell lysate.

NEK2 Antibody (Center) - Background

NEK2 is closely related in its catalytic domain to the serine/threonine protein kinase NIMA of *Aspergillus nidulans* which is required for entry into mitosis and may function in parallel to the universal mitotic inducer p34cdc2. Like NIMA, the Nek2 protein is almost undetectable during G1 but accumulates progressively throughout S, reaching maximal levels in late G2. These observations demonstrate that NEK2 resembles *Aspergillus* NIMA, both in its catalytic domain, and cell cycle-dependent expression. Recombinant NEK2 is active as a serine/threonine-specific protein kinase and may undergo autophosphorylation. Both human NEK2 and fungal NIMA phosphorylate a similar, but not identical, set of proteins and synthetic peptides. NEK2 is shown to be expressed most abundantly in adult testis and there is increasing evidence that NEK2 is abnormally expressed in a wide variety of human cancers. This antibody is specific to isoform 2 of NEK2.

NEK2 Antibody (Center) - References

- Blume-Jensen P, et al. *Nature* 2001. 411: 355.
- Cantrell D, J. *Cell Sci.* 2001. 114: 1439.
- Jhian S *Oncogene* 2000. 19: 5590.
- Manning G, et al. *Science* 2002. 298: 1912.
- Moller, D, et al. *Am. J. Physiol.* 1994. 266: C351-C359.
- Robertson, S. et al. *Trends Genet.* 2000. 16: 368.
- Robinson D, et al. *Oncogene* 2000. 19: 5548.
- Van der Ven, P, et al. *Hum. Molec. Genet.* 1993. 2: 1889.
- Vanhaesebroeck, B, et al. *Biochem. J.* 2000. 346: 561.
- Van Weering D, et al. *Recent Results Cancer Res.* 1998. 154: 271.