

NEK2 Antibody (clone 2F6)
Mouse Monoclonal Antibody
Catalog # ALS14108**Specification**

NEK2 Antibody (clone 2F6) - Product Information

Application	WB, IHC
Primary Accession	P51955
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Calculated MW	52kDa KDa

NEK2 Antibody (clone 2F6) - Additional Information**Gene ID** 4751**Other Names**

Serine/threonine-protein kinase Nek2, 2.7.11.1, HSPK 21, Never in mitosis A-related kinase 2, NimA-related protein kinase 2, NimA-like protein kinase 1, NEK2, NEK2A, NLK1

Target/Specificity

Human NEK2

Reconstitution & Storage

Short term 4°C, long term aliquot and store at -20°C, avoid freeze thaw cycles.

Precautions

NEK2 Antibody (clone 2F6) is for research use only and not for use in diagnostic or therapeutic procedures.

NEK2 Antibody (clone 2F6) - 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

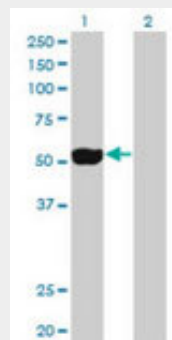
Isoform 1 and isoform 2 are expressed in peripheral blood T-cells and a wide variety of transformed cell types. Isoform 1 and isoform 4 are expressed in the testis. Up-regulated in various cancer cell lines, as well as primary breast tumors

NEK2 Antibody (clone 2F6) - Protocols

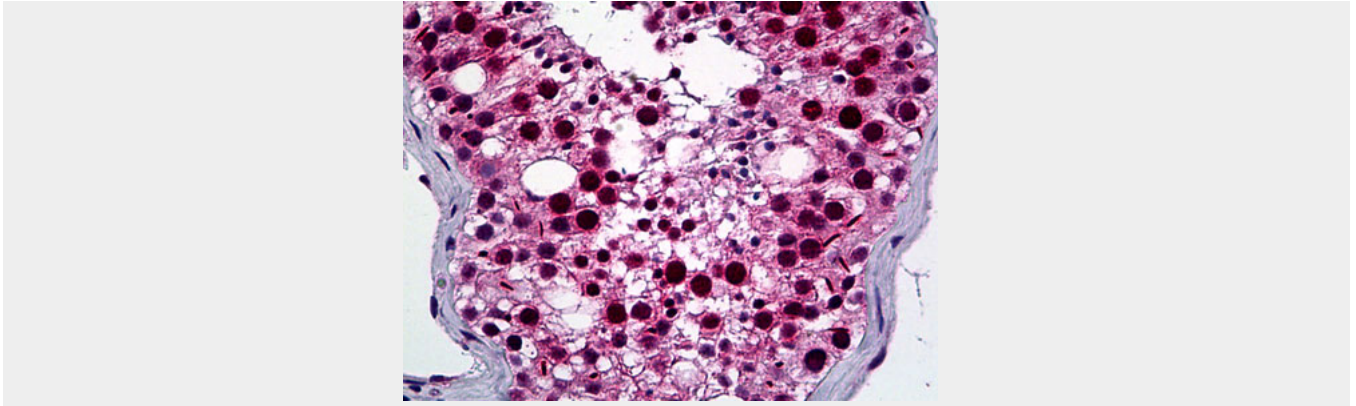
Provided below are standard protocols that you may find useful for product applications.

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

NEK2 Antibody (clone 2F6) - Images



Western blot of NEK2 expression in transfected 293T cell line by NEK2 monoclonal antibody clone 2F6.



Anti-NEK2 antibody IHC of human testis.

NEK2 Antibody (clone 2F6) - Background

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; SGOL1; NECAB3 and NPM1. Essential for localization of MAD2L1 to kinetochore and MAPK1 and NPM1 to the centrosome. Isoform 1 phosphorylates and activates NEK11 in G1/S- arrested cells. Isoform 2, which is not present in the nucleolus, does not.

NEK2 Antibody (clone 2F6) - References

Schultz S.J., et al. *Cell Growth Differ.* 5:625-635(1994).
Hames R.S., et al. *Biochem. J.* 361:77-85(2002).
Lu K.P., et al. Submitted (JUL-1994) to the EMBL/GenBank/DDBJ databases.
Kalnina N., et al. Submitted (OCT-2004) to the EMBL/GenBank/DDBJ databases.
Suzuki Y., et al. Submitted (APR-2005) to the EMBL/GenBank/DDBJ databases.