

**Anti-NEK2 (RABBIT) Antibody**  
**NEK2 Antibody**  
**Catalog # ASR5233****Specification**

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**Anti-NEK2 (RABBIT) Antibody - Product Information**

|                  |  |
|------------------|--|
| Host             | Rabbit   |
| Conjugate        | Unconjugated   |
| Target Species   | Human  |
| Reactivity       | Mouse  |
| Clonality        | Polyclonal   |
| Application      | WB, E, I, LCI  |
| Application Note | This affinity purified antibody has been tested for use in ELISA and by western blot. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 52 kDa in size corresponding to NEK2 protein by western blotting in the appropriate cell lysate or extract. Splice variants exist for this protein that may result in the detection of lower molecular weight bands. |
| Physical State   | Liquid (sterile filtered)  |
| Buffer           | 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2   |
| Immunogen        | This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to an internal region near aa 275-300 of Human NEK2 protein.  |
| Preservative     | 0.01% (w/v) Sodium Azide   |

**Anti-NEK2 (RABBIT) Antibody - Additional Information****Gene ID** 4751**Other Names**  
4751**Purity**

This product is an affinity-purified antibody produced by immunoaffinity chromatography using peptide coupled to agarose beads. BLAST analysis indicates 100 % homology of the immunizing sequence with NEK2 homologues from human and chimpanzee. Cross reactivity with NEK2 protein homologues from other sources may not occur as sequence homology varies by at least one amino acid residue in this sequence.

**Storage Condition**

Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after

standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

#### **Precautions Note**

This product is for research use only and is not intended for therapeutic or diagnostic applications.

### **Anti-NEK2 (RABBIT) Antibody - 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:<a href="http://www.uniprot.org/citations/24554434" target="\_blank">24554434</a>). NEK2-mediated phosphorylation of CEP68 promotes CEP68 dissociation from the centrosome and its degradation at the onset of mitosis (PubMed:<a href="http://www.uniprot.org/citations/25704143" target="\_blank">25704143</a>). Involved in the regulation of centrosome disjunction (PubMed:<a href="http://www.uniprot.org/citations/26220856" target="\_blank">26220856</a>). Phosphorylates CCDC102B either directly or indirectly which causes CCDC102B to dissociate from the centrosome and allows for centrosome separation (PubMed:<a href="http://www.uniprot.org/citations/30404835" target="\_blank">30404835</a>).

#### **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

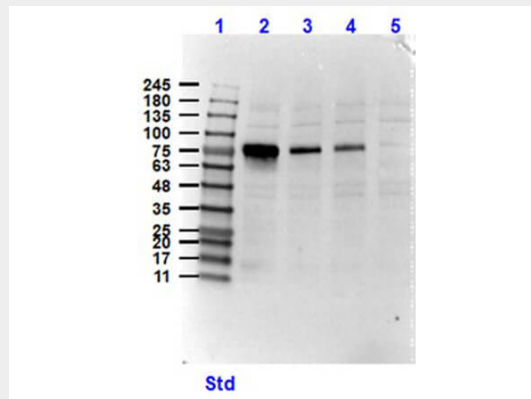
### **Anti-NEK2 (RABBIT) Antibody - Protocols**

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](#)

### Anti-NEK2 (RABBIT) Antibody - Images



Western Blot of Rabbit Anti-NEK2 Antibody. Lane 1: Opal Pre-stained Molecular Weight Marker (p/n MB-210-0500). Lane 2: Jurkat cell lysate (10  $\mu$ g) spiked with rec. NEK2 protein (50ng). Lane 3: Jurkat cell lysate (10  $\mu$ g) spiked with rec. NEK2 protein (20ng). Lane 4: Jurkat cell lysate (10  $\mu$ g) spiked with rec. NEK2 protein (20ng). Lane 5: Jurkat cell lysate (10  $\mu$ g) (p/n W09-001-370). Primary Antibody: Anti-NEK2 at 1  $\mu$ g/mL overnight at 2-8°C. Secondary Antibody: Goat Anti-Rabbit IgG HRP (p/n 611-103-122) at 1:70,000 for 30mins at RT. Block: BlockOut Buffer (p/n MB-073). Expect/Observed MW: ~76kDa rec NEK2.

### Anti-NEK2 (RABBIT) Antibody - Background

NEK2, also called serine/threonine-protein kinase Nek2NimA-related protein kinase 2, NimA-like protein kinase 1 and HSPK 21, is a protein kinase involved in mitotic regulation that may have a role at the G2-M transition and may also play a role in meiosis. NEK2 has a nuclear localization and accumulates throughout S phase and shows maximal levels in late G2. This expression pattern is highly reminiscent of that of A and B cyclins.