

NEK2 Protein, Human

Cat. No.:	HY-P701822
Synonyms:	NEK2; Serine/threonine-protein kinase Nek2; HSPK 21; Never in mitosis A-related kinase 2; NimA-related protein kinase 2; NimA-like protein kinase 1
Species:	Human
Source:	E. coli
Accession:	P51955-1 (M1-I271, T175A)
Gene ID:	4751
Molecular Weight:	

PROPERTIES

Appearance	Solution.
Formulation	Supplied as a 0.22 µm filtered solution of 50 mM Tris-HCl, pH7.5, 200 mM NaCl, 20% glycerol.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	Please use rapid thawing with running water to thaw the protein.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

DESCRIPTION

Background	NEK2 protein emerges as a pivotal kinase, intricately involved in orchestrating essential events in cell division and chromatin dynamics. In mitotic cells, NEK2 plays a crucial role in controlling centrosome separation and bipolar spindle formation by phosphorylating key centrosomal proteins, including CROCC, CEP250, and NINL, leading to their displacement from centrosomes. NEK2 also regulates kinetochore microtubule attachment stability through the phosphorylation of NDC80 and participates in the mitotic checkpoint by phosphorylating CDC20 and MAD2L1. Moreover, NEK2 actively contributes to chromatin condensation during the first meiotic division through the phosphorylation of HMGA2. Its impact extends to the localization of MAD2L1 to the kinetochore and MAPK1 and NPM1 to the centrosome. NEK2-mediated phosphorylation of CEP68 and CCDC102B further modulates centrosome dynamics, influencing their dissociation and separation during cell division. Additionally, NEK2 phosphorylates and activates NEK11 in G1/S-arrested cells, highlighting its comprehensive role in coordinating various cellular processes critical for accurate cell division.
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Caution: Product has not been fully validated for medical applications. For research use only.

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