

NEK6, Active recombinant protein
NEK, Serine/threonine-protein kinase Nek6
Catalog # PBV11292r

Specification

NEK6, Active recombinant protein - Product info

Primary Accession	O9HC98
Concentration	0.1
Calculated MW	63.0 kDa KDa

NEK6, Active recombinant protein - Additional Info

Gene ID	10783
Gene Symbol	NEK6

Other Names

NEK, Serine/threonine-protein kinase Nek6, Serine/threonine-protein kinase Nek6, Never in mitosis A-related kinase 6, NimaA-related protein kinase 6, Protein kinase SID6-1512

Source	Baculovirus (Sf9 insect cells)
Assay&Purity	SDS-PAGE; ≥90%
Assay2&Purity2	HPLC;
Recombinant	Yes
Format	
Liquid	

Storage

-80°C; Recombinant proteins in storage buffer (50 mM Tris-HCl, pH 7.5, 150 mM NaCl, 0.25 mM DTT, 0.1 mM EGTA, 0.1 mM EDTA, 0.1 mM PMSF, 25% glycerol).

NEK6, Active recombinant protein - 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](#)

NEK6, Active recombinant protein - Images

NEK6, Active recombinant protein - Background

Nek6 is a serine/threonine kinase that is a member of the Nek family of protein kinases that share an amino-terminal catalytic domain related to NIMA (never in mitosis, gene A) family (1). Nek6 is a nuclear and cytoplasmic kinase that is required for mitotic progression of human cells. Nek6 is

phosphorylated and activated during M phase of the cell cycle (2). Inhibition of Nek6 function by either overexpression of an inactive Nek6 mutant or elimination of endogenous Nek6 by siRNA arrests cells in M phase and triggers apoptosis suggesting that Nek6 is required for metaphase-anaphase transition. Nercc1/Nek9 binds to Nek6 and is likely to be responsible for the activation of Nek6 during mitosis representing a new signaling pathway that regulates mitotic progression (3). Northern blot analysis shows that Nek6 transcript is ubiquitously expressed with the highest expression found in the heart and skeletal muscle. Nek6 effectively phosphorylates histones H1 and H3, but not casein suggesting that, unlike other mammalian NIMA-related kinases, Nek6 is a mitotic histone kinase which regulates chromatin condensation in mammalian cells. In addition, Nek6 phosphorylates p70 S6 kinase at Thr412 and other sites and activates the p70 S6 kinase in vitro and in vivo, in a manner synergistic with PDK1 (4). Kinase-inactive Nek6 interferes with insulin activation of p70 S6 kinase implicating Nek6 as a possible physiologic regulator of the p70 S6 kinase.

NEK6, Active recombinant protein - References

- Hashimoto Y., et al. *Biochem. Biophys. Res. Commun.* 293:753-758(2002).
Saito T., et al. Submitted (APR-1999) to the EMBL/GenBank/DDBJ databases.
Ota T., et al. *Nat. Genet.* 36:40-45(2004).
Humphray S.J., et al. *Nature* 429:369-374(2004).
Mural R.J., et al. Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.