

# Mouse NEK3 Protein (His & GST Tag)

Catalog Number: 50880-M20B



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

NEK3

### Protein Construction:

A DNA sequence encoding the mouse NEK3 (ABK42288.1) (Met 1-Ala 509) was fused with the N-terminal polyhistidine-tagged GST tag at the N-terminus.

**Source:** Mouse

**Expression Host:** Baculovirus-Insect Cells

## QC Testing

**Purity:** > 90 % as determined by SDS-PAGE

### Bio Activity:

**The specific activity was determined to be 8 nmol/min/mg using MBP as substrate.**

### Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

### Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

**Predicted N terminal:** Met

### Molecular Mass:

The secreted recombinant mouse NEK3/GST chimera consists of 746 amino acids and has a calculated molecular mass of 84.8 kDa. The recombinant protein migrates as an approximately 72 kDa band in SDS-PAGE under reducing conditions.

### Formulation:

Supplied as sterile 20mM Tris, 500mM NaCl, pH 8.0, 10% glycerol

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

### Storage:

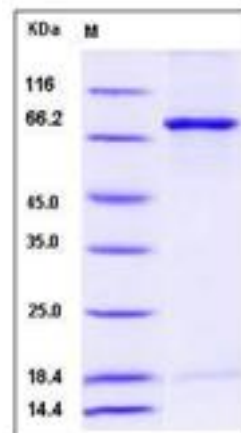
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

NEK3 (NIMA (never in mitosis gene a)-related expressed kinase 3), contains 1 protein kinase domain and is a member of the NimA (never in mitosis A) family of serine/threonine protein kinases. Members of the NEK family of protein kinases share high amino acid homology with NIMA (never in mitosis gene a). NEK3 differs from other NimA family members in that it is not cell cycle regulated and is found primarily in the cytoplasm. It is activated by prolactin stimulation, leading to phosphorylation of VAV2 guanine nucleotide exchange factor, paxillin, and activation of the RAC1 GTPase. NEK3 mRNA can be detected in all the proliferating cell lines with the amount not changing during the cell cycle. Prolactin stimulates interaction between NEK3 and paxillin leading to increased paxillin phosphorylation. Analysis of breast tissue microarrays show a significant up-regulation of NEK3 expression in malignant versus normal specimens. Multiple transcript variants encoding different isoforms have been found for NEK3 gene. NEK3 may play a role in mitotic regulation.

## References

1. Miller SL, *et al.* (2007) Nek3 kinase regulates prolactin-mediated cytoskeletal reorganization and motility of breast cancer cells. *Oncogene*. 26(32):4668-78.
2. Hernandez M, *et al.* (2006) Is there any association between nek3 and cancers with frequent 13q14 deletion?. *Cancer Invest*. 24(7):682-8.
3. Tanaka K, *et al.* (1999) Cloning and characterization of the murine Nek3 protein kinase, a novel member of the NIMA family of putative cell cycle regulators. *J Biol Chem*. 274(19):13491-7.

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