

Human NEK7 Protein (His & GST Tag)

Catalog Number: 11534-H20B



Sino Biological Inc.

Biological Solution Specialist

General Information

Gene Name Synonym:

2810460C19Rik; AU020186

Protein Construction:

A DNA sequence encoding the human NEK7 (NP_003461.2) (Met1-Ser 302) was fused with the N-terminal polyhistidine-tagged GST tag at the N-terminus.

Source: Human

Expression Host: Baculovirus-Insect Cells

QC Testing

Purity: > 95 % as determined by SDS-PAGE

Bio Activity:

No Kinase Activity

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 recombinant human NEK7/GST chimera consists of 539 amino acids and has a calculated molecular mass of 62.4 kDa. It migrates as an approximately 58 kDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 50mM Tris, 100mM NaCl, pH 8.5, 0.5mM Reduced Glutathione, 0.5mM PMSF

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:

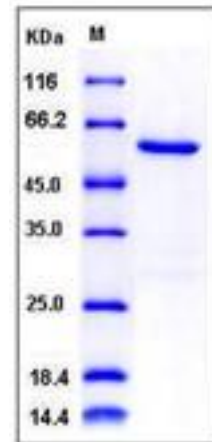
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

NIMA (never in mitosis gene a)-related kinase 7, NEK7 belongs to the NIMA subfamily, NEK Ser/Thr protein kinase family, protein kinase superfamily. NEKs (NIMA-related kinases) are mammalian serine/threonine (Ser/Thr) protein kinases structurally related to Aspergillus NIMA (Never in Mitosis, gene A), which plays essential roles in mitotic signaling. NEKs share an amino-terminal catalytic domain related to NIMA, an Aspergillus kinase involved in the control of several aspects of mitosis, and divergent carboxyl-terminal tails of varying length. NEKs are commonly referred to as mitotic kinases, although a definitive in vivo verification of this definition is largely missing. Reduction in the activity of NEK7 or its close paralog, NEK6, has previously been shown to arrest cells in mitosis, mainly at metaphase. NEK7 is a regulator of cell division, and reveal it as an essential component for mammalian growth and survival. The intimate connection between tetraploidy, aneuploidy and cancer development suggests that NEK7 deregulation can induce oncogenesis. The endogenous NEK7 protein is enriched at the centrosome in a microtubule-independent manner. Overexpression of wt or kinase-defective NEK7 resulted in cells of rounder appearance, and higher proportions of multinuclear and apoptotic cells.

References

1. Belham C, *et al.* (2003) A mitotic cascade of NIMA family kinases. Nercc1/Nek9 activates the Nek6 and Nek7 kinases. *J Biol Chem.* 278(37): 34897-909.
2. Minoguchi S, *et al.* (2003) Differential control of the NIMA-related kinases, Nek6 and Nek7, by serum stimulation. *Biochem Biophys Res Commun.* 301(4): 899-906.
3. Yissachar N, *et al.* (2006) Nek7 kinase is enriched at the centrosome, and is required for proper spindle assembly and mitotic progression. *FEBS Lett.* 580(27): 6489-95.

Manufactured By Sino Biological Inc., FOR RESEARCH USE ONLY. NOT FOR USE IN HUMANS.

Fax :+86-10-51029969 • Tel:+86-400-890-9989 • <http://www.sinobiological.com>