# Recombinant Protein Technical Manual

## Recombinant Human NEK7 Protein (His & GST Tag)

**RPES1250**

## Product Data:

**Product SKU:** RPES1250

**Size:** 20µg

**Species**: Human

**Expression host:** Baculovirus-Insect Cells

**Uniprot:** NP_598001.1

## Protein Information:

**Molecular Mass:** 62.4 kDa

**AP Molecular Mass:** 58 kDa

**Tag:** N-His & GST

**Bio-activity:**

**Purity:** > 95 % as determined by reducing SDS-PAGE.

**Endotoxin:** < 1.0 EU per µg as determined by the LAL method.

**Storage:** Lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8℃ for 2-7 days. Aliquots of reconstituted samples are stable at < -20℃ for 3 months.

**Shipping:** This product is provided as lyophilized powder which is shipped with ice packs.

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

**Reconstitution:** Please refer to the printed manual for detailed information.

**Application:**

**Synonyms:** NEK7

## Immunogen Information:

**Sequence:** Met 1-Ser 302

## Background:

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.