For Research Use Only

NEK1 Recombinant monoclonal antibody, PBS Only (Capture)

Catalog Number:86224-2-PBS

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Basic Information

Catalog Number:
86224-2-PBS

Source:
Rabbit

Isotype:
IgG

Immunogen Catalog Number:
AG25970

GenBank Accession Number:
BC114491

GeneID (NCBI):
4750

UNIPROT ID:
Q96PY6

Full Name:
NIMA (never in mitosis gene a)-related kinase 1

Calculated MW:
1258 aa, 143 kDa

Observed MW:
170-180 kDa

Purification Method:
Protein A purification

CloneNo.:
250128H7

Applications

Tested Applications:
WB, IF/ICC, Sandwich ELISA, Indirect ELISA

Species Specificity:
human, mouse, rat

Background Information

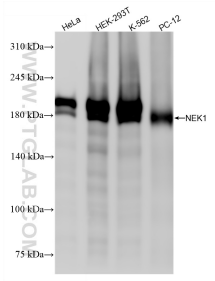
NEK1 (NIMA-Related Kinase 1) is a serine/threonine-protein kinase that plays a multifaceted and critical role in cellular homeostasis. It is widely expressed and involved in key biological processes, most notably the DNA Damage Response (DDR) and cilium assembly and function. NEK1 kinase activity is regulated in response to genotoxic stress, where it facilitates the repair of double-strand breaks alongside proteins like ATM and ATR. Simultaneously, it localizes to the basal body of the primary cilium, governing ciliary structure and trafficking. The paramount importance of NEK1 is highlighted by its strong genetic association with Amyotrophic Lateral Sclerosis (ALS); loss-of-function mutations in NEK1 are recognized as one of the most common genetic causes of familial and sporadic ALS. Furthermore, biallelic mutations in NEK1 are responsible for the severe ciliopathy known as short-rib thoracic dysplasia, underscoring its vital role in skeletal development. Thus, NEK1 represents a crucial molecule at the crossroads of genome integrity, ciliary function, and human neurodegenerative and developmental diseases.

Storage

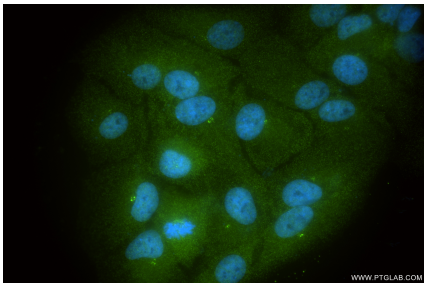
Storage:
Store at -80°C.
The product is shipped with ice packs. Upon receipt, store it immediately at -80°C
Storage Buffer:
PBS only, pH7.3

For technical support and original validation data for this product please contact:
T: 4006900926 E: Proteintech-CN@ptglab.com W: ptgcn.com

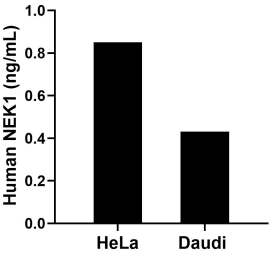
Selected Validation Data



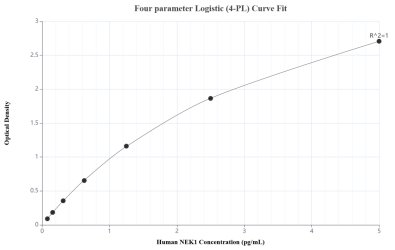
Various lysates were subjected to SDS PAGE followed by western blot with 86224-2-RR (NEK1 antibody) at dilution of 1:21000 incubated at room temperature for 1.5 hours. This data was developed using the same antibody clone with 86224-2-PBS in a different storage buffer formulation.



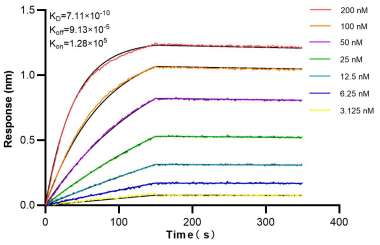
Immunofluorescent analysis of (4% PFA) fixed Starvation treated hTERT-RPE1 cells using NEK1 antibody (86224-2-RR, Clone: 250128H7) at dilution of 1:500 and CoraLite®488-Conjugated Goat Anti-Rabbit IgG(H+L) (SA00013-2). This data was developed using the same antibody clone with 86224-2-PBS in a different storage buffer formulation.



The mean NEK1 concentration was determined to be 0.85 ng/mL in HeLa cell extract based on a 1.30 mg/mL extract load and 0.43 ng/mL in Daudi cell extract based on a 1.8 mg/mL extract load.



Sandwich ELISA standard curve of MP02331-1, Human NEK1 Recombinant Matched Antibody Pair - PBS only. 86224-2-PBS was coated to a plate as the capture antibody and incubated with serial dilutions of standard Ag25970. 86224-1-PBS was HRP conjugated as the detection antibody. Range: 78.1-5000 pg/mL.



Biolayer interferometry (BLI) kinetic assays of 86224-2-RR against Human NEK1 were performed. The affinity constant is 0.711 nM.