

Recombinant Mouse PIN1 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51952

Size: 10ug, 100ug

Protein Name: Peptidyl-prolyl cis-trans isomerase NIMA-interacting 1 (EC 5.2.1.8) (Peptidyl-prolyl cis-trans isomerase Pin1) (PPlase Pin1)

Synonym: Pin1

UniProt ID: Q9QUR7

UniProt Link: www.uniprot.org/uniprotkb/Q9QUR7/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 165 AA

Molecular Weight: 18 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MADEEKLPPGWEEKRMSRSSGRVYYFNHITNASQWERPSGGSTVGGSSKNGQGEPKVRCSHLLV
KHSQSRPSSWRQEKITRSKEEALINGYIQKIKSGEEDFESLASQFSDCSSAKARGDLGPFSRGQ
MQKPFEDASFALRTGEMSGPVFTDSGIHILRTE

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Peptidyl-prolyl cis-trans isomerase NIMA-interacting 1 (EC 5.2.1.8) (Peptidyl-prolyl cis-trans isomerase Pin1) (PPlase Pin1) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Peptidyl-prolyl cis/trans isomerase (PPlase) that binds to and isomerizes specific phosphorylated Ser/Thr-Pro (pSer/Thr-Pro) motifs (PubMed:29686383, PubMed:30893596). By inducing conformational changes in a subset of phosphorylated proteins, acts as a molecular switch in multiple cellular processes (PubMed:29686383, PubMed:30893596). Displays a preference for an acidic residue N-terminal to the isomerized proline bond. Regulates mitosis presumably by interacting with NIMA and attenuating its mitosis-promoting activity. Down-regulates kinase activity of BTK. Can transactivate multiple oncogenes and induce centrosome amplification, chromosome instability and cell transformation. Required for the efficient dephosphorylation and recycling of RAF1 after mitogen activation (By similarity). Binds and targets PML and BCL6 for degradation in a phosphorylation-dependent manner (PubMed:17828269). Acts as a regulator of JNK cascade by binding to phosphorylated FBXW7, disrupting FBXW7 dimerization and promoting FBXW7 autoubiquitination and degradation: degradation of FBXW7 leads to subsequent stabilization of JUN (By similarity). May facilitate the ubiquitination and proteasomal degradation of RBBP8/CtIP through CUL3/KLHL15 E3 ubiquitin-protein ligase complex, hence favors DNA double-strand repair through error-prone non-homologous end joining (NHEJ) over error-free, RBBP8-mediated homologous recombination (HR) (By similarity). Upon IL33-induced lung inflammation, catalyzes cis-trans isomerization of phosphorylated IRAK3/IRAK-M, inducing IRAK3 stabilization, nuclear translocation and expression of pro-inflammatory genes in dendritic cells (PubMed:29686383). Catalyzes cis-trans isomerization of phosphorylated phosphoglycerate kinase PGK1 under hypoxic conditions to promote its binding to the TOM complex and targeting to the mitochondrion (By similarity). Acts as a negative regulator of adipocyte browning by binding to phosphorylated PRDM16, targeting PRDM16 for degradation (PubMed:30893596).

Subcellular Localization: Nucleus . Nucleus speckle . Cytoplasm . Note=Colocalizes with NEK6 in the nucleus. Mainly localized in the nucleus but phosphorylation at Ser-73 by DAPK1 results in inhibition of its nuclear localization.

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.