

Recombinant Rat PTN6 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52426

Size: 10ug, 100ug

Protein Name: Tyrosine-protein phosphatase non-receptor type 6 (EC 3.1.3.48) (Protein-tyrosine phosphatase SHP-1)

Synonym: Ptpn6, Ptp6

UniProt ID: P81718

UniProt Link: www.uniprot.org/uniprotkb/P81718/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 613 AA

Molecular Weight: 70 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MLSRGWFHRDLSPDAETLLKGRGVPGSFLARPSRKNQGDFSLSVRVDDQVTHIRIQNSGDFYDLY
GGEKFATSTELVEYYTQQQGILQDRDGTIIHLKYPLNCSDPTSERWYHGHMSGGQAESLLQAKGEP
WTFLVRESLSQPGDFVLSVLNDQPKAAPGSPLRVTHIKVMCEGGRYTVGGSETFDSLTDLVEHFKK
TGIEEASGAFVYLRQPPYATRVNAADIENRVLELNKKQESED TAKAGFWEEFESLQKQEAKNLHQRL
EGQRPENKSKNRYKNILPFDHSRVILQGRDSNIPGSDYINANYVKNQLLGPDENSKTYIASQGCLDAT
VNDFWQMAWQENTRVIVMTTREVVEKGRNKCVPYWPEVGTQRVYGLYSVTNCKEHD TA EYKLRTL
QISPLDNGDLVREIWHYQYLSWPDHGVPEPGGVLSFLDQINQRQESLPHAGPIIVHCSAGIGRTGTI
IVIDMLMESVSTKGLDCDIDIQKTIQMVRAQRSGMVQTEAQYKFIYVAIAQFIETT KKKLEIIQSQRGQE
SEYGNITYPPALRSAHAKASRTSSKHKEEVYENVHSKNKKEEKVKKQRSADKEKNKGSLKRNISLTP
CRGLRWADRDL

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 Tyrosine-protein phosphatase non-receptor type 6 (EC 3.1.3.48) (Protein-tyrosine phosphatase SHP-1) 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: Tyrosine phosphatase enzyme that plays important roles in controlling immune signaling pathways and fundamental physiological processes such as hematopoiesis. Dephosphorylates and negatively regulate several receptor tyrosine kinases (RTKs) such as EGFR, PDGFR and FGFR, thereby modulating their signaling activities. When recruited to immunoreceptor tyrosine-based inhibitory motif (ITIM)-containing receptors such as immunoglobulin-like transcript 2/LILRB1, programmed cell death protein 1/PDCD1, CD3D, CD22, CLEC12A and other receptors involved in immune regulation, initiates their dephosphorylation and subsequently inhibits downstream signaling events. Modulates the signaling of several cytokine receptors including IL-4 receptor. Additionally, targets multiple cytoplasmic signaling molecules including STING1, LCK or STAT1 among others involved in diverse cellular processes including modulation of T-cell activation or cGAS-STING signaling. Within the nucleus, negatively regulates the activity of some transcription factors such as NFAT5 via direct dephosphorylation. Also acts as a key transcriptional regulator of hepatic gluconeogenesis by controlling recruitment of RNA polymerase II to the PCK1 promoter together with STAT5A.

Subcellular Localization: Cytoplasm . Nucleus . Note=In neurons, translocates into the nucleus after treatment with angiotensin II. Shuttles between the cytoplasm and nucleus via its association with PDPK (By similarity).

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.