

Recombinant Mouse PTPRS Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51111

Size: 10ug, 100ug

Protein Name: Receptor-type tyrosine-protein phosphatase S (R-PTP-S) (EC 3.1.3.48) (PTPNU-3) (Receptor-type tyrosine-protein phosphatase sigma) (R-PTP-sigma)

Synonym: Ptpsr

UniProt ID: B0V2N1

UniProt Link: www.uniprot.org/uniprotkb/B0V2N1/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 1907 AA

Molecular Weight: 212 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MAPTWSPSVSVVGPVGLFLVLLARGCLAEEPPRFIREPKDQIGVSGGVASFVCQATGDPKPRVTW
NKKGKKVNSQRFETIDFDESSGAVLRIQPLRTPRDENVYECVAQNSVGEITIHAKLTVLREDQLPPGF
PNIDMGPQLKVVERTRTATMLCAASGNPDPEITWFKDFLPVDPSASNGRIKQLRSGALQIESSEETD
QGKYECVATNSAGVRYSSPANLYVRVRRVAPRFSILPMSHEIMPGGNVNITCVAVGSPMPYVKWM
QGAEDLTPEDDMPVGRNVLELTDVKDSANYTCVAMSSLGVIEAVAQITVKSPLKAPGTPVVTENTAT
SITVTWDSGNPDVSYVIEYKSKSQDGPYQIKEDITTTRYSIGGLSPNSEYEIWWSAVNSIGQGPPS
ESVVTRTGEQAPASAPRNVQARMLSATTMIVQWEEPVEPNGLIRGYRVYYTMEPEHPVGNWQKH
VDDSLTTVGSLLEDETYTVRVLAFTSVGDGPLSDPIQVKTQQGVPGQPMNLRAEAKSETSIGLSWS
APRQESVIKYELLFREGDRGREVGRTFDPTTAFVVEDLKPNTYAFRLAARSPQGLGAFTAVVRQRT
LQAKPSAPPQDVKCTSLRSTAILVSWRPPPPETHNGALVGYSVRYRPLGSED PDPKEVNNIPPTTTQ
ILLEALEKWTEYRVTA VAYTEVGPGPESSPVVVRTDEDVPSAPPRKVEAEALNATAIRVLWRSPTPG
RQHGGQIRGYQVHYVRMEGAEGPPRIKDIMLADAQEMVITNLQPETAYSITVAAYTMKGDGARSK
PKVVVTKGAVLGRPTLSVQQTPEGSSLLARWEPPADAAEDPVLGYRLQFGREDAAPATLELA AWERR
FAAPAHKGATYVFRLAARGRAGLGEEAAAALSIPEDAPRGFPQILGAAGNVSAGSVLLRWLPPVPAE
RNGAIKYTVSVREAGAPGPATETELAAAAQPGAETALT LRGLRPETAYELRVRAHTRRGPGPFSP
LRYRLARDPVSPKNFKVKMIMKTSVLLSWEFPDNYNSPTPYKIQYNGLTLDVDGRTTKKLITHLKPHT
FYNFVLTNRGSSLGGLQQTVTARTAFNMLSGKPSVAPKPDNDGFIVVYLPDQGQSPVTVQNYFIVMVP
LRKSRGGQFPVLLGSPEDMDLEELIQDISRLQRRSLRHSRQLEVP RPPIAARFSILPAVFHPGNQKQY



GGFDNRGLEPGHRYVFLVLAFLQKNEPTFAASPFSDPFQLDNPDPQPIVDGEEGLIWWIGPVLAVVFI
ICIVIAILLYKNKPDSKRKDSEPRTKCLLNADLAPHHPKDPVEMRRINFQTPGMLSHPPITDMAEH
MERLKANDSLKLSQEYESIDPGQQFTWEHSNLEANKPKNRYANVIAYDHSRVILQPLEGIMGSDYIN
ANYVDGYRRQNAYIATQGPLPETFGDFWRMVWEQRSATVMMTRLEEKSRKCDQYWPNGTET
YGFIVQVTLTDMELATFCVTRFSLHKNKSSEKREVRHFQFTAWPDHGVPEYPTPFLAFLRRVKTCNP
PDAGPIVVHCSAGVGRTGCFIVIDAMLERIKTEKTVDVYGHVTLMRSQRNYMVQTEDQYGFIEALL
EAVGCGNTEVPARSITYIQKLAQVEPGEHVTGMELEFKRLASSKAHTSRFITASLPCNKFKNRLVNI
LPYESSRVCLQPIRGVEGSDYINASFIDGYRQQKAYIATQGPLAETTEDFWRALWENNSTIVMLTKL
REMGREKCHQYWPAERSARYQYFVVDPMAYNMPQYILREFKVTDARDGQSRTVRQFQFTDWPE
QGAPKSGEGFIDFIGQVHKTKEQFGQDGPISVHCSAGVGRTGVFITLSIVLERMRYEGVVDIFQTVKV
LRTQRPAMVQTEDEYQFCFQAALYLGSDHYAT

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 Receptor-type tyrosine-protein phosphatase S (R-PTP-S) (EC 3.1.3.48) (PTPNU-3) (Receptor-type tyrosine-protein phosphatase sigma) (R-PTP-sigma) 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: Cell surface receptor that binds to glycosaminoglycans, including chondroitin sulfate proteoglycans and heparan sulfate proteoglycans (PubMed:19833921, PubMed:21454754, PubMed:22406547). Binding to chondroitin sulfate and heparan sulfate proteoglycans has opposite effects on PTPRS oligomerization and regulation of neurite outgrowth (PubMed:21454754). Contributes to the inhibition of neurite and axonal outgrowth by chondroitin sulfate proteoglycans, also after nerve transection (PubMed:15797710, PubMed:19780196, PubMed:19833921, PubMed:21454754, PubMed:22406547, PubMed:22519304). Plays a role in stimulating neurite outgrowth in response to the heparan sulfate proteoglycan GPC2 (PubMed:21454754). Required for normal brain development, especially for normal development of the pituitary gland and the olfactory bulb (PubMed:10080191). Functions as a tyrosine phosphatase (PubMed:7529177). Mediates dephosphorylation of NTRK1, NTRK2 and NTRK3 (By similarity). Plays a role in down-regulation of signaling cascades that lead to the activation of Akt and MAP kinases (PubMed:15797710). Down-regulates TLR9-mediated activation of NF-kappa-B, as well as production of TNF, interferon alpha and interferon beta (PubMed:26231120).

Subcellular Localization: Cell membrane ; Single-pass type I membrane protein . Cell projection, axon . Perikaryon . Cytoplasmic vesicle, secretory vesicle, synaptic vesicle membrane . Synapse, synaptosome . Postsynaptic density . Cell projection, neuron projection . Cell projection, growth cone . Note=Is rapidly internalized when dendritic cells are stimulated with the TLR9 ligand cytidine-

phosphate-guanosine (CpG) (PubMed:26231120). Detected in a punctate pattern along neurites and axon growth cones (PubMed:21454754).

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.