



Recombinant Rat PTPRS Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52517

Size: 10ug, 100ug

Protein Name: Receptor-type tyrosine-protein phosphatase S (R-PTP-S) (EC 3.1.3.48) (Leukocyte common antigen-related protein-tyrosine phosphatase 2) (LAR-PTP2) (Receptor-type tyrosine-protein phosphatase sigma) (R-PTP-sigma)

Synonym: Ptpsr

UniProt ID: Q64605

UniProt Link: www.uniprot.org/uniprotkb/Q64605/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 1907 AA

Molecular Weight: 212 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MAPTWRPSVSVVGPVGLFLVLLARGCLAEPPRFIREPKDQIGVSGGVASFVCQATGDPKPRVTW
NKKGKKVNSQRFETIDFDESSGAVLRIQPLRTPRDENVYECVAQNSVGEITVHAKLTVLREDQLPPG
FPNIDMGPQLKVVERTRTATMLCAASGNPDPEITWFKDFLPVDPSASNGRIKQLRSGALQIESSEET
DQGYECVATNSAGVRYSSPANLYVRVRRVAPRFSILPMSHEIMPGGNVNITCVAVGSPMPYVKWM
QGAEDLTPEDDMPVGRNVLELTDVKDSANYTCVAMSSLGVIEAVAQITVKSLPKAPGTPVVTENTAT
SITVTWDSGNPDVSYVIEYKSKSQDGPYQIKEDITTRYSIGGLSPNSEYEIWWSAVNSIGQGPPS
ESVVRTGEQAPASAPRNVQARMLSATTMIVQWEEPVEPNGLIRGYRVYYTMEPEHPVGNWQKH
VDDSLTTVGSLLLEDETYTVRVLAFTSVGDGPLSDPIQVKTQQGVPGQPMNLRAEAKSETSIGLSWS
APRQESVIKYELLFREGDRGREVGRTFDPTTAFVVEDLKPNTYAFRLAARSPQGLGAFTAVVRQRT
LQAKPSAPPQDVKCTSLRSTAILVSWRPPPPETHNGALVGYSVRYRPLGSEDPPDPKEVNNIPPTTTQ
ILLEALEKWTEYRVTAAYTEVGPGEPPSVVVRTDEDVPSAPPRKVEAEALNATAIRVLWRSPTPG
RQHGGQIRGYQVHYVRMEGAEGPPRIKDIMLADAQEMVITNLQPETAYSITVAAYTMKGDGARSK
PKVVVTKGAVLGRPTLSVQQTPEGSSLLARWEPPADAAEDPVLGYRLQFGREDAAPATLELAAWERR
FAAPAHKGATYVFRLAARGRAGLGEEASAALSIPEDAPRGFPQILGAAGNVSAGSVILRWLPPVPAE
RNGAIKYTVSVREAGAPGPATETELAAAAQPGAETALTQGLRPETAYELRVRAHTRRGPGPFSP
LRYRLARDPVSPKNFKVKMIMKTSVLLSWEFPDNYNSPTPYKIQYNGLTLDVDGRTTKKLITHLKPHT
FYNFVLTNRGSSSLGGLQQTVTARTAFNMLSGKPSVAPKPDNDGSIVVYLPDGGQSPVTVQNYFIVMV



PLRKSRRGGQFPILLGSPEDMDLEELIQDLSRLQRRSLRHSRQLEVPRPYIAARFSILPAVFHPGNQKQ
YGGFDNRGLEPGHRYVLFVLAVLQKNEPTFAASPFSDPFQLDNPDPQPIVDGEEGLIWWIGPVLAVV
FIICIVIAILLYKNKPDSKRKDSEPRTKCLLNADLAPHHPKDPVEMRRINFQTPGMLSHPPITDMAE
HMERLKANDSLKLSQEYESIDPGQQFTWEHSNLEANPKPNRYANVIAVDHSRVILQPLEGIMGSDYI
NANYVDGYRRQNAYIATQGGLPETFGDFWRMVWEQRSATVMMTRLEEKSRVKCDQYWPNRGTE
TYGFIQVTLTLDLTMELATFCVRTFSLHKNGSSEKREVRHFQFTAWPDHGVPEYPTPFLAFLRRVKTCN
PPDAGPVVVHCSAGVGRTGCFIVIDAMLERIRTEKTVDVYGHVTLMRSQRNYMVQTEDQYSFIHEAL
LEAVGCGNTEVPARSLYTIQKLAQVEPGEHVTGMELEFKRLASSKAHTSRFITASLPCNKFKNRLV
NILPYESSRVCLQPIRGVEGSDYINASFIDGYRQQKAYIATQGPLAETTEDFWRALWENNSTIVMLT
KLREMGREKCHQYWPAERSARYQYFVVDPMAYNMPQYILREFKVTDARDGQSRTVRQFQFTDW
PEQGAPKSGEGFIDFIGQVHKTEQFGQDGPISVHCSAGVGRTGVFITLSIVLERMRYEGVVDIFQTV
KVLRTQRPAMVQTEDEYQFCFQAALYLGSDHYAT

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) (Leukocyte common antigen-related protein-tyrosine phosphatase 2) (LAR-PTP2) (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. Binding to chondroitin sulfate and heparan sulfate proteoglycans has opposite effects on PTPRS oligomerization and regulation of neurite outgrowth. Contributes to the inhibition of neurite and axonal outgrowth by chondroitin sulfate proteoglycans, also after nerve transection. Plays a role in stimulating neurite outgrowth in response to the heparan sulfate proteoglycan GPC2. Required for normal brain development, especially for normal development of the pituitary gland and the olfactory bulb (By similarity). Functions as tyrosine phosphatase (PubMed:8068021). 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. Down-regulates TLR9-mediated activation of NF-kappa-B, as well as production of TNF, interferon alpha and interferon beta (By similarity).

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). Detected in a punctate pattern along neurites and axon growth cones.

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.