10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

PTPRS Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP57795

Product Information

Application	IHC-P, IHC-F, IF, ICC, E
Primary Accession	Q13332
Reactivity	Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	217041
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human PTPRS
Epitope Specificity	1001-1100/1948
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	Preservative: 0.02% Proclin300, Constituents: 1% BSA, 0.01M PBS, pH7.4.
SUBCELLULAR LOCATION	Membrane; Single-pass type I membrane protein.
SIMILARITY	Belongs to the protein-tyrosine phosphatase family. Receptor class 2A subfamily. Contains 8 fibronectin type-III domains. Contains 3 Ig-like C2-type (immunoglobulin-like) domains. Contains 2 tyrosine-protein phosphatase domains.
SUBUNIT	Interacts with PPFIA1, PPFIA2 and PPFIA3.
Post-translational modifications	A cleavage occurs, separating the extracellular domain from the transmembrane segment. This process called 'ectodomain shedding' is thought to be involved in receptor desensitization, signal transduction and/or membrane localization.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Protein tyrosine phosphatases, or PTPs, are type I transmembrane proteins, membrane associated proteins or proteins localized in nuclei. Examples of transmembrane PTPs are LAR, PTP alpha, PTP beta, PTP gamma, PTP delta, PTP epsilon, PTP zeta, PTP thet, PTP upsilon and PTPs. Transmembrane PTPsigma play diverse roles during development and in adult tissues. Immunodepletion studies have suggested LAR to be a regulator of insulin receptor phosphorylation. PTP alpha activity is increased twofold in response to phorbol ester stimulation, resulting in serine phosphorylation either directly or indirectly by members of the PKC family. Overexpression of v-H-Ras and Neu, but not Myc or Int2, in mammary tumors has been shown to induce PTPe expression. An alternative splicing event leads to a nervous tissue-specific chondroitin sulfate proteoglycan called phosphacan, which represents the amino terminal portion of PTP omega. PTP thet and PTP?share a conserved amino terminal 160 amino acid MAM domain which facilitates homophilic binding. PTP upsilon localizes to points of cell contact and may be involved in regulating the assembly and disassembly of cadherin/catenin complexes in vivo. PTPsigma contains an extracellular region, a single transmembrane segment and two tandem intracytoplasmic catalytic domains, and thus represents a receptor-type PTP. PTPsigma may also be involved in

the molecular control of adult nerve repair. Four alternatively spliced transcript variants, which encode distinct proteins, have been reported.

Additional Information

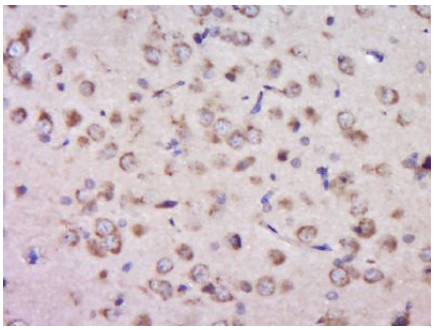
Gene ID	5802
Other Names	Receptor-type tyrosine-protein phosphatase S, R-PTP-S, 3.1.3.48, Receptor-type tyrosine-protein phosphatase sigma, R-PTP-sigma, PTPRS
Target/Specificity	Detected in all tissues tested except for placenta and liver.
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,ICC=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Format	0.01M TBS(pH7.4) with 1% BSA, 0.09% (W/V) sodium azide and 50% Glyce
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

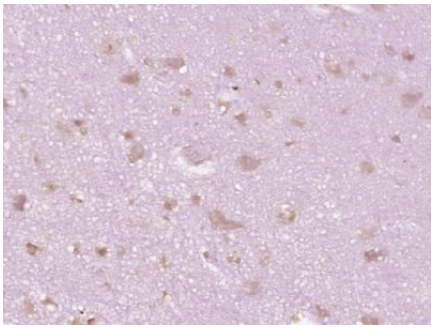
Name	PTPRS
Function	Cell surface receptor that binds to glycosaminoglycans, including chondroitin sulfate proteoglycans and heparan sulfate proteoglycan (PubMed:21454754). Binding to chondroitin sulfate and heparan sulfate proteoglycans has opposite effects on PTPRS oligomerization and regulation of 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. Functions as a tyrosine phosphatase (PubMed:8524829). 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 (By similarity). Down-regulates TLR9- mediated activation of NF-kappa-B, as well as production of TNF, interferon alpha and interferon beta (PubMed:26231120).
Cellular Location	Cell membrane; Single-pass type I membrane protein. Cell projection, axon {ECO:0000250|UniProtKB:B0V2N1}. Perikaryon {ECO:0000250|UniProtKB:B0V2N1}. Cytoplasmic vesicle, secretory vesicle, synaptic vesicle membrane {ECO:0000250|UniProtKB:Q64605}. Synapse, synaptosome {ECO:0000250|UniProtKB:Q64605}. Postsynaptic density {ECO:0000250|UniProtKB:Q64605}. Cell projection, neuron projection {ECO:0000250|UniProtKB:B0V2N1}. Cell projection, growth cone {ECO:0000250|UniProtKB:B0V2N1}. 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 (By similarity) {ECO:0000250|UniProtKB:B0V2N1, ECO:0000269|PubMed:26231120}
Tissue Location	Detected in peripheral blood plasmacytoid dendritic cells (at protein level) (PubMed:26231120). Detected in all tissues tested except for placenta and

liver (PubMed:8524829, PubMed:8992885) Detected in peripheral blood plasmacytoid dendritic cells (PubMed:26231120).

Images



Paraformaldehyde-fixed, paraffin embedded (Rat brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (PTPRS) Polyclonal Antibody, Unconjugated (AP57795) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.



Paraformaldehyde-fixed, paraffin embedded (human brain glioma); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (PTPRS) Polyclonal Antibody, Unconjugated (AP57795) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.