

PTP alpha/PTPRA Protein, Human, Recombinant (aa 174-793, His & GST)

General Information

Synonyms:	LRP;PTP α /PTPRA Protein, Human, Recombinant (aa 174-793, His & GST);HPTPA;R-PTP- α ; HEPTP;protein tyrosine phosphatase, receptor type, A;HPTPalpha;HPTP α ;RPTPA;PTPRL2; HLPR;PTPA;R-PTP-alpha
Protein Construction:	A DNA sequence encoding the human PTPRA isoform 2 (P18433-2) cytoplasmic domain (Ala 174-Lys 793) was fused with the N-terminal polyhistidine-tagged GST tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	P18433-2
Molecular Weight:	99 kDa (predicted); 90 kDa (reducing conditions)

QC Testing

Biological Activity:	1. Measured by its ability to bind biotinylated recombinant mouse SRC in a functional ELISA. 2. Measured by its ability to cleave a substrate, pNitrophenyl phosphate (pNPP). The specific activity is >40000 pmol/min/ μ g.
Purity:	> 90 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/ μ g of the protein as determined by the LAL method.
Formulation:	Supplied as sterile 20 mM Tris, 500 mM NaCl, pH 7.4, 20% gly, 3 mM DTT.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store the product under sterile conditions at -20°C to -80°C. Samples are stable for up to 12 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

Proteins are shipped with blue ice.

Protein Background

PTPRA is reported to be involved in cancer development and progression through activating the Src family kinase (SFK) signaling pathways. The higher PTPRA level was associated with worse prognosis of SCC patients and PTPRA could promote the cell cycle progression through stimulating the c-Src signaling pathways. The PTPRA gene, which encodes the protein RPTP-alpha, is critical to neurodevelopment. Previous linkage studies, genome-wide association studies, controlled expression analyses and animal models support an association with both

schizophrenia and autism spectrum disorders, both of which share a substantial portion of genetic risks.

Reference

Kaplan R, et al. (1990) Cloning of three human tyrosine phosphatases reveals a multigene family of receptor-linked protein-tyrosine-phosphatases expressed in brain. Proc Natl Acad Sci U S A. 87 (18): 7000-4.

Hertog JD, et al. (1996) Tight association of GRB2 with receptor protein-tyrosine phosphatase alpha is mediated by the SH2 and C-terminal SH3 domains. EMBO J. 15 (12): 3016-27.

Ye H, et al. (2011) Receptor-like protein-tyrosine phosphatase a enhances cell surface expression of neural adhesion molecule NB-3. J Biol Chem. 286 (29): 26071-80.

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