



LD Biopharma, Inc.
9924 Mesa Rim Road Suite B
San Diego, CA 92121
Tel: 858-876-8266
<http://www.ldbiopharma.com>

- PRODUCT DATA SHEET -

Name of Product: Recombinant Human PTP4A3 Protein
Catalog Number: hRP-1605
Manufacturer: LD Biopharma, Inc.

Introduction

Human protein tyrosine phosphatase type IVA3 gene encodes a member of the protein-tyrosine phosphatase family. Protein tyrosine phosphatases are cell-signaling molecules that play regulatory roles in a variety of cellular processes. Studies of this class of protein tyrosine phosphatase in mice demonstrate that they are prenylated *in vivo*, suggesting their association with cell plasma membrane. The encoded protein may enhance cell proliferation, and over-expression of this gene has been implicated in tumor metastasis. Alternative splicing results in multiple transcript variants.

Full-length mature human PTP4A3 (148 aa, isoforms-II) gene was constructed with 29 aa N-terminal T7-His-TEV cleavage site tag and expressed in *E.coli* as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

Gene Symbol: PTP4A3 (PRL-3; PRL-R; PRL3)
Accession Number: NP_009010
Species: Human
Size: 50 µg / Vial
Composition: 0.5 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose and DTT.
Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

Key References

Jianbiao Zhou, et al., *Phosphatase of regenerating liver-3 is regulated by signal transducer and activator of transcription 3 in acute myeloid leukemia*. *Experimental Hematology*. 42: 1041-1052 (2014)



LD Biopharma, Inc.
9924 Mesa Rim Road Suite B
San Diego, CA 92121
Tel: 858-876-8266
<http://www.ldbiopharma.com>

Zimmerman MW, et al., *Protein-tyrosine phosphatase 4A3 (PTP4A3) promotes vascular endothelial growth factor signaling and enables endothelial cell motility*. J. Biol. Chem. 289 (9), 5904-5913 (2014)

Ishii, T., et al., *Thioredoxin-related protein 32 (TRP32) specifically reduces oxidized phosphatase of regenerating liver (PRL)*. J. Biol. Chem. 288 (10), 7263-7270 (2013)

Lian, S., et al., *PRL-3 activates NF-kappaB signaling pathway by interacting with RAPI*. Biochem. Biophys. Res. Commun. 430 (1), 196-201 (2013)

Lian, Y.X., et al., *Effect of protein-tyrosine phosphatase 4A3 by small interfering RNA on the proliferation of lung cancer*. Gene 511 (2), 169-176 (2012)

Tian, W., et al., *Phosphatase of regenerating liver-3 directly interacts with integrin beta1 and regulates its phosphorylation at tyrosine 783*. BMC Biochem. 13, 22 (2012)

Applications

1. May be used for in vitro PTP4A3 mediated NFkb pathway regulation study by intracellular delivery of this protein with "ProFectin" reagent.
2. May be used for mapping PTP4A3 protein-protein interaction.
3. May be used as specific substrate protein for kinase, and ubiquitin (Sumo pathway) related enzyme functional screening assays.
4. Potential anti-cancer therapeutic target protein, such as for lung cancer and ALL treatment development.
5. As antigen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHHENLYFQGGEFMARMNRPAPVEVSYKHMRFILITHNPTNATLSTFIE
DLKKYGATTVVRVCEVTYDKTPLEKDGITVVVDWPFDDGAPPPGKVVEDWLSLVKAKKFCEAPGSC
VAVHCVAGLGRKRRGAINSKQLTYLEKYRPKQRLRFKDPHTHKTRCCVM