



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 ROR1 Protein
Catalog Number: hRP-1516
Manufacturer: LD Biopharma, Inc.

Introduction

Human tyrosine protein kinase transmembrane receptor ROR1 gene encodes a receptor tyrosine kinase-like orphan receptor that modulates neurite growth in the central nervous system. The encoded protein is a glycosylated type I membrane protein that belongs to the ROR subfamily of cell surface receptors. It is a pseudokinase that lacks catalytic activity and may interact with the non-canonical Wnt signalling pathway. ROR1 gene is highly expressed during early embryonic development but expressed at very low levels in adult tissues. Increased expression of this gene is associated with B-cell chronic lymphocytic leukaemia. So anti-ROR1 specific antibody may be useful in cancer therapy by selectively targeting ROR1⁺ cancer cells.

Full-length extracellular domain of human ROR1 extracellular domain cDNA (30-406 aa) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. This protein is 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: ROR1 (NTRKR1; dJ537F10)
Accession Number: NP_005003
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, 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

Widhopf GF et al., *ROR1 can interact with TCL1 and enhance leukemogenesis in Emu-*



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

TCL1 transgenic mice. Proc. Natl. Acad. Sci. U.S.A. 111 (2), 793-798 (2014)

Cui B, et al., *Targeting ROR1 inhibits epithelial-mesenchymal transition and metastasis.* Cancer Res. 73 (12), 3649-3660 (2013)

Hudecek M, et al., *Receptor affinity and extracellular domain modifications affect tumor recognition by ROR1-specific chimeric antigen receptor T cells.* Clin. Cancer Res. 19 (12), 3153-3164 (2013)

Hojjat-Farsangi M, et al., *Inhibition of the receptor tyrosine kinase ROR1 by anti-ROR1 monoclonal antibodies and siRNA induced apoptosis of melanoma cells.* PLoS ONE 8 (4), E61167 (2013)

Applications

1. May be used for in vitro ROR1 mediated T cell and neuronal cell differentiation regulation study with this protein either as soluble factor or as coating matrix protein.
2. May be used for protein-protein interaction assay.
3. Potential biomarker protein for cancer therapy applications.
4. As antigen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGEFQETELSVSAELVPTSSWNISSSELNKDSYLTLDPEMN
NITTSLGQTAELHCKVSGNPPPTIRWFKNDAPVVQEPRRLSFRSTIYGSRLRIRNLDTTDTGYF
QCVATNGKEVVSSTGVLVFKFGPPPTASPGYSDEYEEDGFCQPYRGIACARFIGNRTVYMESLH
MQGEIENQITAAFTMIGTSSHLSDKCSQFAIPSLCHYAFPYCDETSSVPKPRDLCRDECEILEN
VLCQTEYIFARSNPMLMLRLKLPNCEDLPQPESPEAANCIRIGIPMADPINKNHKCYNSTGVDY
RGTVSVTKSGRQCQPWNSQYPHTHTFTALRFPELNGGHSYCRNPGNQKEAPWCF'TLDENFKSDL
CDIPACDSKDSKEKNKMEILY