



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant YFP-Human **Rab7b** Protein
Catalog Number: HRP-3330
Manufacturer: LD Biopharma, Inc. USA

Introduction

Human Ras-related protein Rab-7b (Rab7b) gene encodes a protein which controls vesicular trafficking from endosomes to the trans-Golgi network (TGN). It acts as a negative regulator of TLR9 signaling and can suppress TLR9-triggered TNFA, IL6, and IFNB production in macrophages by promoting TLR9 lysosomal degradation. Rab7b also negatively regulates TLR4 signaling in macrophages by promoting lysosomal degradation of TLR4. It promotes megakaryocytic differentiation by increasing NF-kappa-B-dependent IL6 production and subsequently enhancing the association of STAT3 with GATA1. Rab7b is not involved in the regulation of the EGF- and EGFR degradation pathway. Recent data also indicated that RAB7 plays a role in controlling tumor antigen presentation process.

Full-length human Rab7b cDNA (198aa, Isoform-a) was constructed with codon optimization gene synthesis and expressed with YFP Protein as N-terminal (YFP; 256aa) fusion protein 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: Rab7b
Accession Number: NP_796377
Species: Human
Size: 50µg / Vial
Composition: 1mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose, DTT and others.
Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least two weeks.

Key References



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Yanzhang Fang, et al., *MAL2 drives immune evasion in breast cancer by suppressing tumor antigen presentation*. The Journal of Clinical Investigation. 121(1):e140837 (2021). <https://doi.org/10.1172/JCI140837>.

Lafalla Manzano AF, et al., *Rab7b participation on the TLR4 (Toll-like receptor) endocytic pathway in Shiga toxin-associated Hemolytic Uremic Syndrome (HUS)*. Cytokine 121, 154732 (2019)

Kjos I, et al., *Rab7b modulates autophagic flux by interacting with Atg4B*. EMBO Rep 18 (10), 1727-1739 (2017)

Applications

1. May be used for in vitro Rab7b protein mediated macropinocytosis and vesicular trafficking pathway regulation for various cells study using intracellular delivery of recombinant human YFP-human Rab7b protein with protein delivery reagent such as ProFectin.
2. May be used for Rab7b protein-protein interaction assay.
3. May be used as specific substrate protein for Rab7b specific kinase, and ubiquitin (Sumo pathway) related enzyme functional screening assays.
4. As native human Rab7b antigen for its specific antibody production.

Quality Control

Purity: > 93 % by SDS-PAGE.

This YFP-human Rab7b, have a single excitation peak centered at about 485 nm, with an emission peak wavelength of 510 nm.

Recombinant **YFP**- Human Rab7b Fusion Protein Sequence (50.4 kD)

MK**HHHHHH**QVSKGEELFTGVVPIVVELDGDVNGHKFSVSGEGEGDATYGKLTLLCTTGKLPV
PWPTLVTTGLGYGVQCFARYPDHMKQHDFFKSAMPEGYVQERTIFFKDDGNYKTRAEVKFEGDTL
VNRIELKGI~~DFKEDGNILGHKLEYNYN~~SHNVYITADKQKNGIKANFKIRHNIEDGGVQLADHYQ
QNTPIGDGPVLLPDNHYLSYQSALFKDPNEKRDHMLLEFLTAAGITEGMNDLYK**GS**NPRKKVD
LKLIIVGAIGVGKTSLLHQYVHKTFFYEEYQTTLGASILSKIIILGDTTLKLQIWDTGGQERFRS
MVSTFYKGS~~SDGCILAFDVT~~DLESFEALDIWRGDVLAKIVPMEQSYPMVLLGNKIDLADRKVPQE
VAQGWCREKDIPIYFEVSAKNDINVVQAFEMLASRALSRYSQSILENHLTESIKLSPDQSRSRCC