



LD Biopharma, Inc.  
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## - PRODUCT DATA SHEET -

**Name of Product:** Recombinant Human RAB38 Protein  
**Catalog Number:** hRP-1671  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

Lysosome-related organelles (LROs) exist in specialized cells to serve specific functions and typically co-exist with conventional lysosomes. The biogenesis of LROs is known to utilize much of the common protein machinery used in the transport of integral membrane proteins to lysosomes. RAB, ras-related GTP-binding protein, is a member of the small GTPase super family; it is located in specific sub-cellular organelles and plays an important role in cell secretion, endocytosis, signal transduction and development. RAB38 is a member of the RAB superfamily; its mutation is associated with platelet dense granule storage pool disease. Rab38 is also key protein in the biogenesis of melanosomes and were recently shown to redirect the ubiquitous machinery –BLOC-2, AP-1 and AP-3 to traffic specialized cargoes to melanosomes in melanocytes. Some data indicated that high-level expression of Rab38 in glioma confers a poor prognosis.

Full-length human Rab38 cDNA (210 aa, derived from BC015808) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. This protein was 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:** RAB38 (NY-MEL-1; rrGTPbp)  
**Accession Number:** NP\_071732  
**Species:** Human  
**Size:** 50 µg / Vial  
**Composition:** 1.0 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

Wang H et al., *RAB38 confers a poor prognosis, associated with malignant progression*



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*and subtype preference in glioma. Oncol. Rep. 30 (5), 2350-2356 (2013)*

Gerondopoulos A, et al., *BLOC-3 mutated in Hermansky-Pudlak syndrome is a Rab32/38 guanine nucleotide exchange factor. Curr. Biol. 22 (22), 2135-2139 (2012)*

Bultema JJ, et al., *BLOC-2, AP-3, and AP-1 proteins function in concert with Rab38 and Rab32 proteins to mediate protein trafficking to lysosome-related organelles. J. Biol. Chem. 287 (23), 19550-19563 (2012)*

Wang F, et al., *Varp interacts with Rab38 and functions as its potential effector. Biochem. Biophys. Res. Commun. 372 (1), 162-167 (2008)*

## **Applications**

1. May be used for in vitro RAB38 protein mediated transporting of integral membrane proteins to lysosomes pathway regulation for cancer cells study by intracellular delivery of this protein with "ProFectin" reagent.
2. May be used for mapping RAB38 protein-protein interaction assay.
3. As antigen for specific antibody production.

## **Quality Control**

Purity: > 90% by SDS-PAGE.

## **Recombinant Protein Sequence**

MASMTGGQQMGRGHHHHHHENLYFQGGFQAPHKEHLYKLLVIGDLGVGKTSIIKRYVHQNFSS  
HYRATIGVDFALKVLHWDPETVVRLQLWDIAGQERFGNMTRVYYREAMGAFIVFDVTRPATFEA  
VAKWKNDLDSKLSLPNGKPVSVVLLANKCDQGDVLMNGLKMDQFCKEHGFVGFETSAKENI  
NIDEASRCLVKHILANECDLMESIEPDVVKPHLTSTKVASCSGCAKS