



LD Biopharma, Inc.
7384 Trade Street, Suite B
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human RYBP Protein
Catalog Number: hTF-2449
Manufacturer: LD Biopharma, Inc.

Introduction

Human Ring and YY1-binding protein (RYBP) is a component of a Polycomb group (PcG) multiprotein PRC1-like complex, a complex class required to maintain the transcriptionally repressive state of many genes, including Hox genes, throughout development. PcG PRC1-like complex acts via chromatin remodeling and modification of histones; it mediates monoubiquitination of histone H2A 'Lys-119', rendering chromatin heritably changed in its expressibility. Component of a PRC1-like complex that mediates monoubiquitination of histone H2A 'Lys-119' on the X chromosome and is required for normal silencing of one copy of the X chromosome in XX females. May stimulate ubiquitination of histone H2A 'Lys-119' by recruiting the complex to target sites. RYBP inhibits ubiquitination and subsequent degradation of TP53, and thereby plays a role in regulating transcription of TP53 target genes. It may also regulate the ubiquitin-mediated proteasomal degradation of other proteins like FANK1 to regulate apoptosis. RYBP may be implicated in the regulation of the transcription as a repressor of the transcriptional activity of E4TF1. May bind to DNA.

Full-length human RYBP cDNA (227aa) was constructed with codon optimization using gene synthesis technology and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. It 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: RYBP (DEDAF; YEAF1)
Accession Number: NP_036366
Species: Human
Size: 30 µg / Vial
Composition: 0.3 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose and DTT.



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Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 7 days.

Key References

Mohammad A.M.Ali, et al., *RYBP is a K63-ubiquitin-chain-binding protein that inhibits homologous recombination repair*. Cell Reports 9. doi:10.1016/j.celrep.2017.12.047 January (2018).

Zhao Q, et al., *RYBP Expression Is Regulated by KLF4 and Sp1 and Is Related to Hepatocellular Carcinoma Prognosis*. J. Biol. Chem. 292 (6), 2143-2158 (2017)

Tan K, et al., *Tumor suppressor RYBP harbors three nuclear localization signals and its cytoplasm-located mutant exerts more potent anti-cancer activities than corresponding wild type*. Cell. Signal. 29, 127-137 (2017)

Zhou H, et al., *RING1 and YY1 binding protein suppresses breast cancer growth and metastasis*. Int. J. Oncol. 49 (6), 2442-2452 (2016)

Applications

1. May be used for in vitro RYBP mediated gene transcription and DNA repair pathway regulation study for various cancer cells by intracellular delivery of this protein with protein delivery reagent such as ProFectin reagent kit.
2. May be used for mapping RYBP protein-protein interaction.
3. May be used as a specific substrate protein for kinase, and ubiquitin (Sumo pathway) related enzyme functional screening assays.
4. Potential biomarker/therapeutic target protein for cancer prognosis and cancer treatment drug development, such as breast cancer treatment.
5. As Immunogen for specific antibody production.

Quality Control

1. Purity: > 90% by SDS-PAGE

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHENLYFQGGFETMGDKKSPTRPKRQAKPAADEGFWDCSVCTFRNSA
EAFKCSICDVRKGTSTRKPRINSQLVAQQVAQQYATPPPKKEKKEKVEKQDKEKPEKDKEISP
SVTKKNTNKKTKPKSDILKDPPSEANSIQSANATTKTSETNHTSRPRLKNVDRSTAQQQLAVTVG
NVTVIITDFKEKTRSSSTSSSTVTSSAGSEQNQSSSGSESTDKGSSRSSTPKGDMSAVNDESF