



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human **BMI1-11R** Protein
Catalog Number: HTF-0045
Manufacturer: LD Biopharma, Inc. USA

Introduction

Human BMI1 (BMI1 polycomb ring finger oncogene) gene encodes a protein which is a component of the Polycomb group (PcG) multiprotein PRC1 complex, a complex required to maintain the transcriptionally repressive state of many genes, including Hox genes, throughout development. PcG PRC1 complex acts via chromatin remodeling and modification of histones; it mediates monoubiquitination of histone H2A 'Lys-119', rendering chromatin heritably changed in its expressibility. In the PRC1 complex, it is required to stimulate the E3 ubiquitin-protein ligase activity of RNF2/RING2. This gene was identified as key transcription factor involved in human HSC differentiation. Recent data indicated that BMI1 positive CSC population is a unique feature of HNSCC, which plays a role in immunotherapy or chemotherapy.

Full-length human BMI1 cDNA (325aa, derived from BC011652) 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 and 11 arginine (11R) tag at its C-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:	BMI1 (PCGF4; RNF51)
Accession Number:	NP_005171
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, 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

Jia, L., et al. *BMI1 inhibition Eliminates Residual Cancer Stem Cells after PD1 Blockade and Activates Antitumor Immunity to prevent Metastasis and Replapse*. Cell Stem Cell. 27. ISSUE-2. p238-253. E6



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Alkema, M.J., et al. *Identification of Bmi1-interacting proteins as constituents of a multimeric mammalian polycomb complex.* Genes Dev. 11 (2), 226-240 (1997)

Hongyan Zhou, et al. *Generation of Induced Pluripotent Stem Cells Using Recombinant Proteins.* Cell Stem Cell.4: 381-384. (2009)

Applications

1. May be used for in vitro BMI1 mediated gene transcription regulation study by directly intracellular delivery of this BMI1-11R protein in cell culture medium.
2. May be used for mapping BMI1 protein-protein interaction.
3. May be used as specific BMI1 substrate protein for kinase, and ubiquitin (Sumo pathway) related enzyme functional screening assays.
4. Potential therapeutic target protein for HNSCC Cancer Stem cell elimination, et al.
5. As native BMI1 immunogen for its specific antibody production.

Quality Control

Purity: > 95 % by SDS-PAGE.

Recombinant Human BMI1-11R Protein Sequence (42.5 kD)

MASMTGGQOMGRGHHHHHENLYFOGGEFHRTTRIKITELNPHLMCVLCGGYFIDATTIIECLH
SFCKTCIVRYLETISKYCPICDVQVHKTRPLLNIRSDKTLQDIVYKLVPGFLFKNEMKRRRDFYAA
HPSADAANGSNEDRGEVADEDKRIITDDEIISLSIEFFDQNRDLDRKVNKDKEKSKEEVNDKRYL
RCPAAMTVMHLRKFRLRSKMDIPNTFQIDVMYEEEPLKDYITLMDIAYIYTWRNGPLPLKYRVR
PTCKRMKISHQRDGLTNAGELESDSGSDKANSFAGGIPSTSSCLPSPSTPVQSPHPQFPHISST
MNGTSNSPSGNHQSSFANRPRKSSVNGSSATSSGESGGGSPGRRRRRRRRRRR