



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant sfGFP-Human MBL2 Fusion Protein
Catalog Number: HRP-3302
Manufacturer: LD Biopharma, Inc.

Introduction

Human Mannose-Binding Protein C (MBL2) gene encodes a secreted protein which is calcium-dependent lectin involved in innate immune defense. It binds mannose, fucose and N-acetylglucosamine on different microorganisms and activates the lectin complement pathway. MBL2 also binds to late apoptotic cells, as well as to apoptotic blebs and to necrotic cells, but not to early apoptotic cells, facilitating their uptake by macrophages. It may bind DNA. Recent data indicated that various tumor cells carry aberrant glycosylated proteins on cell surface, such as uncapped N-acetyl-glucosamine and mannose, which can be captured using MBL2 as affinity-binding reagents. As such, fluorescence labeled MBL2 (superGFP) may also be a good detection reagents for CTC assay.

Full-length secreted form of human MBL2 cDNA (21-248aa) was constructed with codon optimization gene synthesis and expressed with a SuperGFP Protein N-terminal (sGFP; 257aa) fusion at target protein N-terminal 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: | MBL2 | (COLEC1; MBL; Collectin-1) |
| Accession Number: | NP_000233.1 | |
| 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 -20°C for long term storage. Product is stable at 4 °C for at least two weeks. | |

Key References

Joo H Kang, et al., *An Engineered Human Fc-Mannose-Binding Lectin Captures Circulating Tumor Cells*. Advanced Biosystems.(2017). DOI: [10.1002/adbi.201700094](https://doi.org/10.1002/adbi.201700094)



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Andreia Peixoto, et al., *Protein Glycosylation and Tumor Microenvironment alternation Driving Cancer Hallmarks*. Fron. Oncol., 14 May.(2019). doi.org/10.3389/fonc.2019.00380

Applications

1. May be used as in vitro Circulating tumor cells capturing reagents when sfGFP-MBL2 fusion protein was conjugated to various beads.
2. May be also used for detection reagent to assay CTC in Vitro, such as IF or flow-cytometry.
3. As native human MBL2 antigen for specific its antibody production.

Quality Control

Purity: > 93 % by SDS-PAGE.

Recombinant sGFP- Human MBL2Fusion Protein Sequence (54.0 kD)

MKHHHHHHQVSKGEEELFTGVVPI LVELDGDVNGHKFSVRGEGEGDATNGKLT LKFICTTGKLPV
PWPTLVTTLYGVQCFSRYPDHMKRHDFFKSAMPEGYVQERTISFKDDGTYKTRAEVKFEGDTL
VNRIELKGI DFKEDGNILGHKLEYNFNSHNVYITADKQNGIKANFKIRHNVEDG SVQLADHYQ
QNTPIGDGPVLLPDNHYLSTQSVLSKDPNEKRDHMLLEFVTAAGITHGMDELYKSGLRSGGSG
GENLYFQSGGGGSETVTCEDAQKTCPAVIACSSPGINGFP GKDGRDGT KGEKGE PGQGLRGLQ
GPPGKLGPPGNPGSPGSPGPKGQKGDGKSPDGSSLAASERKALQTEMARIKKWLT FSLGKQV
GNKFFLTNGEIMTFEKVKALCVKFQASVATPRNAAENGAIQNLIKEEAF LGITDEKTEGQFVDL
TGNRLTYTNWNEGEPNNAGSDEDCVLLLKNGQWNDVPCSTSHLAVCEFP I