



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

Name of Product: Recombinant YFP-Human **IGF2BP3** Fusion Protein
Catalog Number: HRP-3301
Manufacturer: LD Biopharma, Inc. USA

Introduction

Human Insulin-like growth factor 2 mRNA-binding protein 3 (IGF2BP3) gene encodes a RNA-binding factor that may recruit target transcripts to cytoplasmic protein-RNA complexes (mRNPs). This transcript 'caging' into mRNPs allows mRNA transport and transient storage. It also modulates the rate and location at which target transcripts encounter the translational apparatus and shields them from endonuclease attacks or microRNA-mediated degradation. IGF2BP3 binds to the 3'-UTR of CD44 mRNA and stabilizes it, hence promotes cell adhesion and invadopodia formation in cancer cells. It binds to beta-actin/ACTB and MYC transcripts. It also binds to the 5'-UTR of the insulin-like growth factor 2 (IGF2) mRNAs. Auto-antibodies against IGF2BP3 are detected in sera from some patients with a variety of carcinomas. IGF2BP3 also named as CT98, which only expressed in early fetal tissue or various cancer cells. CT98 protein could potentially severed as cancer vaccine for clinical therapeutic development.

Full-length human **IGF2BP3** cDNA (578aa, derived from BC065269) 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: IGF2BP3 (CT98; IMP3; KOC1; VICKZ3)
Accession Number: NP_006538.2
Species: Human
Size: 50µg / 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.



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Key References

Sasaki M et al., *An immunohistochemical panel of insulin-like growth factor II mRNA-binding protein 3 (IMP3), enhancer of zeste homolog 2 (EZH2), and p53 is useful for a diagnosis in bile duct biopsy*. *Virchows Arch* 479 (4), 697-703 (2021)

Mikata R, et al., *Diagnostic value of IMP3 and p53 immunohistochemical staining in EUS-guided fine-needle aspiration for solid pancreatic tumors*. *Sci Rep* 11 (1), 17257 (2021)

Liu Z, et al., *N(6)-methyladenosine-modified circIGF2BP3 inhibits CD8(+) T-cell responses to facilitate tumor immune evasion by promoting the deubiquitination of PD-L1 in non-small cell lung cancer*. *Mol Cancer* 20 (1), 105 (2021)

Mueller-Pillasch F, et al., *Expression of the highly conserved RNA binding protein KOC in embryogenesis*. *Mech Dev* 88 (1), 95-99 (1999)

Applications

1. May be used for in vitro IGF2BP3 protein mediated RNA synthesis pathway regulation for fetal cell or cancer cell's study using intracellular delivery of recombinant human IGF2BP3 protein with protein delivery reagent such as ProFectin.
2. May be used for IGF2BP3 protein-protein interaction assay.
3. May be used as specific substrate protein for IGF2BP3 specific kinase, and ubiquitin (Sumo pathway) related enzyme functional screening assays.
4. Potential therapeutic & diagnostic protein, IGF2BP3 might be a good candidate protein for cancer vaccine development. Detection of IGF2BP3 auto-antibodies could be a good biomarker for cancer diagnosis.
5. As native human IGF2BP3 immunogen for its specific antibody production.

Quality Control

Purity: > 92 % by SDS-PAGE.

YFP protein: **Ex λ** = 517nm, and **Em λ** = 530nm.



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Recombinant **YFP**- Human IGF2BP3 Fusion Protein Sequence (92.8 kD)

MK**HHHHH**HQVSKGEELFTGVVPI LVELDGDVNGHKFSVSGEGEGDATYGKLT LKLLCTTGKLPV
PWPTLVTTLG YGVQCFARYPDHMKQHDFFKSAMPEGYVQERTIFFKDDGNYKTRAEVKFEGDTL
VNRIELKGI DFKEDGNILGHKLEYNYN SHNVYITADKQKNGIKANFKIRHNIEDGGVQLADHYQ
QNTPIGDGPVLLPDNHYLSYQSALFKDPNEKRDH MVLLEFLTAAGITEGMNDLYKGS**ENLYFOG**
EFNKLYIGNLSENAAPS DLESI FKDAKIPVSGPFLVKTGYAFVDCPDESWALKAI EALSGKIEL
HGKPIEVEHSV PKRQRIRKLQIRNIPPHLQWEVLDSLLVQYGVVESCEQVNTDSETAVNVNTYS
SKDQARQALDKLNGFQLENFTLKVAYIPDEMAAQQNPLQQPRGRRGLGQRGSSRQGS PGSVSKQ
KPCDLPLRLLVPTQFVGAIIGKEGATIRNITKQTQSKIDVHRKENAGAAEKSITILSTPEGTSA
ACKSILEIMHKEAQDIKFTEEIPLKILAHNNFVGR LIGKEGRNLKKIEQD TDTKITISPLQELT
LYNPERTITVKG NVETCAKAE EEEIMKKIRESYENDIASMNLQAHLIPGLNLNALGLFPPTSGMP
PPTSGPPSAMP PYPQFEQSETETVHLFIPALSVGAIIGKQGQH IKQLSRFAGASIKIAPAEAP
DAKVRMVIITGPPEAQFKAQGRIYGKIKEENFVSPKEEVKLEAHIRVPSFAAGRVI GKGGKTVN
ELQNLSSAEVVVPRDQTPDENDQVVVKITGHFYACQVAQRKIQEILTQVKQHQQQKALQSGPPQ
SRRK