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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human IGFBP3 Protein
Catalog Number: hRP-1121
Manufacturer: LD Biopharma, Inc.

Introduction

Human insulin-like growth factor-binding protein 3 (IGFBP3) gene is a member of the insulin-like growth factor binding protein (IGFBP) family and encodes a protein with an IGFBP domain and a thyroglobulin type-I domain. The protein forms a ternary complex with insulin-like growth factor acid-labile subunit (IGFALS) and either insulin-like growth factor (IGF) I or II. In this form, it circulates in the plasma, prolonging the half-life of IGFs and altering their interaction with cell surface receptors. Alternate transcriptional splice variants, encoding different isoforms, have been characterized.

Full-length mature protein of human IGFBP3 cDNA (27-291aa, Isoform-b, derived from BC000013) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. This protein is 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: IGFBP3 (BP_53; IBP53)
Accession Number: NP_000589
Species: Human
Size: 50 µg / Vial
Composition: 0.5 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, arginine, DTT and Glycerol.
Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

Key References

Wu,C., et al., *Insulin-like factor binding protein-3 promotes the G1 cell cycle arrest in several cancer cell lines.* Gene 512 (1), 127-133 (2013)



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Stawerska,R., et al., *Ghrelin concentration is correlated with IGF-I/IGFBP-3 molar ratio but not with GH secretion in children with short stature.* Neuro Endocrinol. Lett. 33 (4), 412-418 (2012)

Coverley,J.A., et al., *The effect of phosphorylation by casein kinase 2 on the activity of insulin-like growth factor-binding protein-3.* Endocrinology 141 (2), 564-570 (2000)

Applications

1. May be used for in vitro IGFBP3 mediated IGF1 activity regulation study with this protein as either coating matrix protein or soluble factor.
2. May be used as IGFBP3 protein-protein interaction assay.
3. As enzymatic substrate for various proteases, such as Neutrophil proteases, Cathepsin G and elastase, PSA, et al.
4. As antigen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGGEFGASSGGLGPVVRCEPCDARALAQCAPPPAVCAELV
REPGCGCCLTCALSEGQPCGIYTERCGSGLRCQPSPDEARPLQALLDGRGLCVNASAVSRLRAY
LLPAPPAPGNASESEEDRSAGSVESPSVSSTHRVSDPKFHPLHSKIIIIKKGHAKDSQRYKVDY
ESQSTDTQNFSSSEKRETEYGPCRREMEDTLNHLKFLNVLSPRGVHIPNCDKKGFYKKKQCRPS
KGRKRGFCWCVDKYGQPLPGYTTKGKEDVHCYSMQSK