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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human IGFBP1 Protein
Catalog Number: hRP-1128
Manufacturer: LD Biopharma, Inc.

Introduction

Human insulin-like growth factor-binding protein 1 (IGFBP1) 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 binds both insulin-like growth factors (IGFs) I and II and circulates in the plasma. Binding of this protein prolongs the half-life of the IGFs and alters their interaction with cell surface receptors. Recent data indicated that HMGA1-IGF1-IGFBP pathway plays an important role in modulating glucose uptake.

Full-length mature protein of human IGFBP1 cDNA (25-259aa, derived from BC057806) 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: IGFBP1 (AFBP; hIGFBP-1; IBP1; IGF-BP25; PP12)
Accession Number: NP_000587
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

Messmer-Blust, A.F., et al., *RTEF-1 attenuates blood glucose levels by regulating insulin-like growth factor binding protein-1 in the endothelium*. Circ. Res. 111 (8), 991-1001 (2012)



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Iiritano,S., et al., *The HMGA1-IGF-I/IGFBP system: a novel pathway for modulating glucose uptake.* Mol. Endocrinol. 26 (9), 1578-1589 (2012)

Park,H.I., et al., *Peptide substrate specificities and protein cleavage sites of human endometase/matrilysin-2/matrix metalloproteinase-26.* J. Biol. Chem. 277 (38), 35168-35175 (2002)

Applications

1. May be used for in vitro mediated IGF1 activity regulation study with this protein as either coating matrix protein or soluble factor.
2. May be used as IGFBP1 protein-protein interaction assay.
3. As enzymatic substrate for various proteases, such as MMP26, et al.
4. As antigen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGGEFAPWQCAPCSAEKLLALCPPVSASCSEVTRSAGCGCC
PMCALPLGAACGVATARCARGLSCRALPGEQQPLHALTRGQGACVQESDASAPHAEEAGSPESP
ESTEITEEELLDNFHLMAPSEEDHSILWDAISTYDGSKALHVTNIKKWKEPCRIELYRVVESLA
KAQETSGEEISKFYLPNCNKNGFYHSRQCETSMDGEAGLCWCVYPWNGKRI PGSP EIRGDPNCQ
IYFNVQN