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

Name of Product: Recombinant **Human IGF2** Protein
Catalog Number: HRP-2735
Manufacturer: LD Biopharma, Inc.

Introduction

Human Insulin-like growth factor –II (IGF2) gene encodes an insulin-like growth factors, which possess growth-promoting activity. As major fetal growth hormone in mammals, it plays a key role in regulating fetal placental development. IGF-II is influenced by placental lactogen. It is also involved in tissue differentiation. It positively regulates myogenic transcription factor MYOD1 function by facilitating the recruitment of transcriptional co-activators, thereby controlling muscle terminal differentiation. In adults, IGF2 is involved in glucose metabolism in adipose tissue, skeletal muscle and liver. It acts as a ligand for integrin which is required for IGF2 signaling.

Full-length mature form of human IGF2 cDNA (25 – 91aa) was constructed with codon optimization gene synthesis and expressed with a human alpha Fetal Protein N-terminal (AFPn) -His-TEV cleavage site Tag (217aa) fusion at its 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:	IGF2 (GRDF; PP9974; C11orf43)
Accession Number:	NP_000603
Species:	Human
Size:	30 µg / Vial
Composition:	0.3 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 30 days.

Key References

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Brown TC, et al.,***Insulin-Like Growth Factor and SLC12A7 dysregulation: A Novel Signaling Hallmark of Non-Functional Adrenocortical Carcinoma.*** J Am Coll Surg. Apr 26.pii:s1072-7515. (2019)

Ziegier AN, et al.,***Insulin-Like Growth Factor II: An Essential Adult Stem cell Niche Constituent in Brain and Intestine.*** Stem Cell Reports. Apr 9;12(4): 816-830 (2019)

Daimon M, et al.,***The third IGF-II promoter specifies transcription of three transcripts out of five in human placenta.*** Mol. Reprod. Dev. 33 (4), 413-417 (1992)

Applications

1. May be used for in vitro IGF2 mediated signaling regulation study for neuronal or intestinal cells in vitro with this recombinant IGF2 protein either as soluble factor or as coating matrix protein.
2. May be used for IGF2 protein-protein interaction assay.
3. Potential Therapeutic / diagnostic protein, which may be used for monitoring adrenocortical carcinoma stages.
4. As native human IGF2 immunogen for specific antibody production.

Quality Control

Purity: > 92 % by SDS-PAGE.

Recombinant Human AFPn- IGF2 Fusion Protein Sequence (32.0 kD)

MTLHRNEYGIASILDSYQCTAEISLADLATIFFAQFVQEATYKEVSKMVKDALTAIEKPTGDEQ
SSGCLENQLPAFLEELCHEKEILEKYGHSDCCSQSEEGRHNCFLAHKKPTPASIPLFQVPEPVT
SCEAYEEDRETFMNKFIYEIARRHPFLYAPTILLWAARYDKIIPSCCKAENAVECFQTKAATVT
KELRESSGGSHHHHHHGSENLYFQGAYRPSETL**C**GGELVDTLQFV**C**GDRGFYFSRPASRVSRRS
RGIVEE**CC**FRS**C**DLALLETY**C**ATPAKSE