LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human DDIT3 Protein
Catalog Number: hTF-0529
Manufacturer: LD Biopharma, Inc.

Introduction

Human DNA damage-inducible transcript 3 protein (DDIT3) gene encodes a member of the CCAAT/enhancer-binding protein (C/EBP) family of transcription factors. The protein functions as a dominant-negative inhibitor by forming heterodimers with other C/EBP members, such as C/EBP and LAP (liver activator protein), and preventing their DNA binding activity. The protein is implicated in adipogenesis and erythropoiesis, is activated by endoplasmic reticulum stress, and promotes apoptosis. Fusion of this gene and FUS on chromosome 16 or EWSR1 on chromosome 22 induced by translocation generates chimeric proteins in myxoid liposarcomas or Ewing sarcoma. Multiple alternatively spliced transcript variants encoding two isoforms with different length have been identified.

Full-length recombinant human DDIT3 cDNA (169 aa, isoform 2) was constructed with codon optimization with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. This protein was expressed in E. coli as inclusion bodies, refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

Gene Symbol:	DDIT3 (CEBPZ; CHOP; CHOP-10; GADD153)
Accession Number:	NP_004074
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

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De Luca,P., et al., *BRCA1 loss induces GADD153-mediated doxorubicin resistance in prostate cancer*. Mol. Cancer Res. 9 (8), 1078-1090 (2011)

Rodriguez,R., et al., *FUS-CHOP fusion protein expression coupled to p53 deficiency induces liposarcoma in mouse but not in human adipose-derived mesenchymal stem/stromal cells*. Stem Cells 29 (2), 179-192 (2011)

John,L., et al., *Hepatitis E virus ORF2 protein activates the pro-apoptotic gene CHOP and anti-apoptotic heat shock proteins*. PLoS ONE 6 (9), E25378 (2011)

Ubeda,M. et al., *CHOP transcription factor phosphorylation by casein kinase 2 inhibits transcriptional activation*. J. Biol. Chem. 278 (42), 40514-40520 (2003)

Applications

1. May be used for in vitro stress mediated DNA damage pathway regulation study with intracellular delivery of recombinant DDIT3 protein technology, such as PULSin™ protein transfaction system.
2. May be used as specific substate protein for kinase or ubiquitin ligase assay development.
3. May be used as antigen for specific antibody production.

Quality Control

1. Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHHGNLYFQGGEFAAESLPFSFGTLSSWELEAWYEDLQEVLSSDENGG
TYVSPPGNEEEESKIFTTLDPASLAWLTEEEPEPAEVTSTSQSPHSPDSSQSSLAQEEEEEDQG
RTRKRKQSGHSPARAGKQRMKEKEQENERKVAQLAEENERLKQEIERLTREVEATRRALIDRMV
NLHQA