LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human cJun-11R Protein
Catalog Number: HTF-2249
Manufacturer: LD Biopharma, Inc. USA

Introduction

Human transcription factor AP-1 (also named as c-Jun) gene encodes a transcription factor that recognizes and binds to the enhancer heptamer motif 5'-TGA[CG]TCA-3'. It promotes activity of NR5A1 when phosphorylated by HIPK3 leading to increased steroidogenic gene expression upon cAMP signaling pathway stimulation. Recent data indicated that c-Jun overexpression in CAR-T cells induces exhaustion resistance.

Full-length human C-Jun cDNA (330aa, derived from BC068522) was constructed with codon optimization using gene synthesis technology and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal and 11 arginine (11R) tag at its C-terminal. It was 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:	C-Jun (AP1, c-Jun; p39)
Accession Number:	NP_057953.1
Species:	Human
Size:	50 µg / 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.

Key References

Rachel C Lynn, et al., ***C-jun overexpression in CAR-T cells induces exhaustion resistance.*** Nature. https://doi.org/10.1038/s41586-019-1805-z (2019)

Addison WN, et al., ***Dephosphorylation of the transcriptional cofactor NACA by the PP1A phosphatase enhances cJUN transcriptional activity and osteoblast Differentiation.*** J. Biol. Chem. 294 (20), 8184-8196 (2019)

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Yoon H, et al., ***p27 transcriptionally coregulates cJun to drive programs of tumor progression.*** Proc. Natl. Acad. Sci. U.S.A. 116 (14), 7005-7014 (2019)

Applications

1. May be used for in vitro c-Jun mediated gene transcription regulation study in B cell or neuronal cell's differentiation by intracellular delivery of this cJun-11R protein directly in vitro cell culture.

2. May be used for mapping c-Jun protein-protein interaction.

3. May be used as specific substrate protein for kinase, and ubiquitin (Sumo pathway) related enzyme functional screening assays.

4. Potential biomarker protein / therapeutic target protein for modulating CAR-T cell activities, such as overcome CAR-T cell exhaustion.

5. As native human c-Jun immunogen for specific antibody production.

Quality Control

Purity: > 92 % by SDS-PAGE.

Recombinant Human cJun-11R Protein Sequence (41.2 kD)

MASMTGGQQMGRGHHHHHHENLYFQGGEFTAKMETTFYDDALNASFLPSESGPYGYSNPKILKQ
SMTLNLADPVGSLKPHLRAKNSDLLTSPDVGLLKLASPELERLIIQSSNGHITTTPTPTQFLCP
KNVTDEQEGFAEGFVRALAELHSQNTLPSVTSAAQPVNGAGMVAPAVASVAGGSGSGGFSASLH
SEPPVYANLSNFNPGALSSGGGAPSYGAAGLAFPAQPQQQQQPPHHLPQQMPVQHPRLQALKEE
PQTVPEMPGETPPLSPIDMESQERIKAERKRMRNRIAASKCRKRKLERIARLEEKVKTLKAQNS
ELASTANMLREQVAQLKQKVMNHVNSGCQLMLTQQLQTF**ESGGGGSPGRRRRRRRRRRR**