



LD Biopharma, Inc.
7384 Trade Street, Suite B
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Tel: 858-876-8266
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human TFAP2A Protein
Catalog Number: hTF-2030
Manufacturer: LD Biopharma, Inc.

Introduction

The protein encoded by human transcription factor AP-2-alpha (TFAP2A) gene is a transcription factor that binds the consensus sequence 5'-GCCNNNGGC-3'. The encoded protein functions as either a homodimer or as a heterodimer with similar family members. They activate genes involved in a large spectrum of important biological functions including proper eye, face, body wall, limb and neural tube development. They also suppress a number of genes including MCAM/MUC18, C/EBP alpha and MYC. AP-2-alpha is the only AP-2 protein required for early morphogenesis of the lens vesicle. Together with the CITED2 co-activator, stimulates the PITX2 P1 promoter transcription activation. It associates with chromatin to the PITX2 P1 promoter region.

Full-length human TFAP2A cDNA (436aa, Isoform-A, derived from BC017754) 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. 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: TFAP2A (AP-2; AP2TF; BOFS; TFAP2; AP-2 alpha)
Accession Number: NP_003211
Species: Human
Size: 10 µg / Vial
Composition: 0.1 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 7 days.

Key References



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Pu M, et al. *MiR-1254 suppresses HO-1 expression through seed region-dependent silencing and non-seed interaction with TFAP2A transcript to attenuate NSCLC growth.* PLoS Genet. 13 (7), e1006896 (2017)

Seberg HE, et al. *TFAP2 paralogs regulate melanocyte differentiation in parallel with MITF.* PLoS Genet. 13 (3), e1006636 (2017)

Shu ST, et al., *Cell-based Fluorescence Complementation Reveals a Role for HIV-1 Nef Protein Dimerization in AP-2 Adaptor Recruitment and CD4 Co-receptor Down-regulation.* J. Biol. Chem. 292 (7), 2670-2678 (2017)

Ye J, et al., *A Functional Variant Associated with Atrial Fibrillation Regulates PITX2c Expression through TFAP2a.* Am. J. Hum. Genet. 99 (6), 1281-1291 (2016)

Applications

1. May be used for in vitro TFAP2A mediated gene transcription regulation study for various cells by intracellular delivery of this protein with protein delivery reagent such as ProFectin reagent kit.
2. May be used for mapping TFAP2A protein-protein interaction.
3. May be used as specific substrate protein for kinase, and ubiquitin (Sumo pathway) related enzyme functional screening assays.
4. As Immunogen for specific antibody production.

Quality Control

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

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHENLYFQGGEFLVHSFSAMDRHDGTSNGTARLPQLGTVGQSPYTSAPPLSHTPNADFQPPYFPPYQPIYPQSQDPYSHVNDPYSLNPLHAQPQPQHPGWPGQRQSQESG LLHTRHGLPHQLSGLDPRRDYRRHEDLLHGPHALSSGLGDL SIHSLPHAI EEVPHVEDPGINIP DQTVIKKGPVSLSKSNSNAVSAIPINKDNLFGGVVNPNEVFCSVPGRLSLLSSTSKYKVTVAEV QRRLSPPECLNASLLGGVLRRAKSKNGRSLREKLDKIGLNLPAGRKAANVTLLTSLVEGEAV HLRDFGYVCETEFPAKAVAEFLNRQHSDPNEQVTRKNMMLLATKQICKEFTDLLAQDRSPLGNS RPNPILEPGIQSCLTHFNLI SHGFGSPAVCAAVTALQNYL TEALKAMDKMYLSNPNNSHTDNNA KSSDKEEKHRK