



LD Biopharma, Inc.
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<http://www.ldbiopharma.com>

- PRODUCT DATA SHEET -

Name of Product: Recombinant Human ACTL6A Protein
Catalog Number: hRP-0230
Manufacturer: LD Biopharma, Inc.

Introduction

Human ACTL6A (Actin-like 6A) gene encodes a family member of actin-related proteins (ARPs), which share significant amino acid sequence identity to conventional actins. Both actins and ARPs have an actin fold, which is an ATP-binding cleft, as a common feature. The ARPs are involved in diverse cellular processes, including vesicular transport, spindle orientation, nuclear migration and *chromatin remodeling*. This gene encodes a 53 kDa subunit protein of the BAF (BRG1/brm-associated factor) complex in mammals, which is functionally related to SWI/SNF complex in *S. cerevisiae* and *Drosophila*; the latter is thought to facilitate transcriptional activation of specific genes by antagonizing chromatin-mediated transcriptional repression. Together with beta-actin, it is required for maximal ATPase activity of BRG1, and for the association of the BAF complex with chromatin/matrix.

Full length recombinant human ACTL6A protein was constructed with N-terminal 15aa (T7) tag. This protein was expressed in *E. coli* as inclusion bodies, refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified. Incubating this protein using LD Biopharma’s novel polymer will efficiently deliver the protein intracellularly for studying its function in vitro.

Gene Symbol: ACTL6A (BAF53A)
Accession Number: NP_004292
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, arginine, DTT and Glycerol.
Storage: In Liquid. Keep at -20°C for long term storage. Product is stable at 4 °C for at least 7 days.



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Key References

Cai, Y., et al. *The mammalian YL1 protein is a shared subunit of the TRRAP/TIP60 histone acetyltransferase and SRCAP complexes.* J. Biol. Chem 280 (14), 13665-13670 (2005)

Hongyan Zhou, et al. *Generation of Induced Pluripotent Stem Cells Using Recombinant Proteins.* Cell Stem Cell 4: 381-384 (2009)

Applications

1. Protein transduction for studying SWI/SNF-like BAF complex in vitro.
2. Active recombinant protein, may be used for ELISA based DNA / protein binding assay.
3. As specific protein substrate for kinase assay.
4. As immunogen for specific antibody production.

Quality Control

1. Purity: > 90% by SDS-PAGE.
2. DNA binding activity: Not tested yet.

Recombinant Protein Sequence

MASMTGGQENGRGEFSGGVYGGDEVGALVFDIGSYTVRAGYAGEDCPKVDFPPTAIGMVVERDDG
STLMEIDGDKGKQGGPTYIIDTNALRVPRENMEAISPLKNGMVEDWDSFQAILDHTYKMHVKSE
ASLHPVLMSEAPWNTRAKREKLTLMFEHYNIPAFFLCKTAVLTAFANGRSTGLILDSGATHHT
AIPVHDGYVLQQGIVKSPLAGDFITMQCRELFQEMNIELVPPYMIASKEAVREGSPANWKRKEK
LPQVTRSWHNYMCNCVIQDFQASVLQVSDSTYDEQVAAQMPTVHYEFPNGYNCDFGAERLKIPE
GLFDPSNVKGLSGNTMLGVSHVVTTSVGMCDIDIRPGLYGSVIVAGGNTLIQSFTDRLNRELSQ
KTPPSMRCLKLIANNTTVERRFSSWIGGSILASLGTFFQQMWISKQEYEEGGKQCVERKCP