



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human ARFIP2 Protein
Catalog Number: hRP-0913
Manufacturer: LD Biopharma, Inc.

Introduction

BAR (Bin/Amphiphysin/Rvs) domains form a curved helical homodimer that can associate with membranes to sense or induce curvature. Unlike other membrane-binding domains that recognize the head groups of specific phospholipids, BAR domains bind nonspecifically to acidic membrane surfaces via basic residues on their concave face. Arfaptins (Arfaptin-1 and Arfaptin-2) are canonical BAR domain-containing proteins with no additional lipid-binding modules. Arfaptin-2 (ARFIP2) alone can deform liposomes into tubules *in vitro* and can bind to the Arf and Rac GTPases, suggesting that membrane remodeling induced by Arfaptin-2 can be modulated by these GTPases. Recent data also indicated that ARFIP2 protein might play a role in regulating huntingtin protein aggregation.

Full-length human Arfaptin-2 (341aa, Isoform_II) gene was constructed with 15 aa N-terminal T7 tag and 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: ARFIP2 (POR1)
Accession Number: NP_036534
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, Sucrose and DTT.
Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

Key References

Nakamura, K., et al., *Structural basis for membrane binding specificity of the*



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Bin/Amphiphysin/Rvs (BAR) domain of Arfaptin-2 determined by Arl1 GTPase. J. Biol. Chem. 287 (30), 25478-25489 (2012)

Rangone, H., et al., *Phosphorylation of arfaptin 2 at Ser260 by Akt Inhibits PolyQ-huntingtin-induced toxicity by rescuing proteasome impairment.* J. Biol. Chem. 280 (23), 22021-22028 (2005)

Peters, P.J., et al., *Arfaptin 2 regulates the aggregation of mutant huntingtin protein.* Nat. Cell Biol. 4 (3), 240-245 (2002)

Applications

1. May be used for in vitro ARFIP2 mediated membrane sense pathway regulation study by intracellular delivery of this protein with “ProFectin” reagent.
2. May be used for mapping ARFIP2 protein – protein interaction assay.
3. May be used as specific substrate protein for kinase and ubiquitin (Sumo pathway) related enzyme functional screening assays.
4. May be used for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGEFMTDGI LGKAATMEIPIHGNGEARQLPEDDGLEQDLQQVMVSGPNLNETS
IVSGGYGGSGDGLIPTGSGRHP SHSTTPSGPGDEVARGIAGEKFDIVKKWGINTYKCTKQLLSE
RFGRGSR TVDLELELQI ELLRETKRKYESVLQLGRALTAHLYSLLQTQHALGDAFADLSQKSPE
LQEEFGYNAETQKLLCKNGETLLGAVNFFVSSINTLVTKT MEDTLMTVKQYEAARLEYDAYRTD
LEELSLGPRDAGTRGRLESAQATFQAHRDKYEKLRGDVAIKLKFLEENKIKVMHKQLLLFHNAV
SAYFAGNQQLEQTLQQFNILRPPGAEKPSWLEEQ