



**LD Biopharma, Inc.**  
7384 Trade Street, Suite B  
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Tel: 858-876-8266  
<http://www.ldbiopharma.com>

## - PRODUCT DATA SHEET -

**Name of Product:** Recombinant Human PDCD6IP Protein  
**Catalog Number:** hRP-1929  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

Human programmed cell death 6-interacting protein (PDCD6IP) gene encodes a protein that functions within the ESCRT pathway in the abscission stage of cytokinesis, in intraluminal endosomal vesicle formation, and in enveloped virus budding. This protein is involved in concentration and sorting of cargo proteins of the multivesicular body (MVB) for incorporation into intraluminal vesicles (ILVs) that are generated by invagination and scission from the limiting membrane of the endosome. PDCD6IP protein binds to the phospholipid lysobisphosphatidic acid (LBPA), which is abundant in MVBs internal membranes. The MVB pathway appears to require the sequential function of ESCRT-0, -I, -II and -III complexes. The ESCRT machinery also functions in topologically equivalent membrane fission events, such as the terminal stages of cytokinesis and enveloped virus budding (HIV-1 and other lentiviruses). This protein appears to be an adapter for a subset of ESCRT-III proteins, such as CHMP4, to function at distinct membranes. It is required for completion of cytokinesis. PDCD6IP is involved in HIV-1 virus budding. It can replace TSG101 in its role of supporting HIV-1 release; this function implies the interaction with CHMP4B. It may play a role in the regulation of both apoptosis and cell proliferation. It regulates exosome biogenesis in concert with SDC1/4 and SDCBP.

Full-length human PDCD6IP cDNA ( 867 aa, derived from BC020066 ) was constructed with N-terminal codon optimization gene synthesis and expressed 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. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

**Gene Symbol:** PDCD6IP (AIP1; ALIX; DRIP4; HP95; KIAA1375)  
**Accession Number:** NP\_037506  
**Species:** Human  
**Size:** 50 µg / Vial



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**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

Prescher J, et al., *Super-resolution image of ESCRT-protein at HIV-1 assembly site*. PLoS Pathg. Feb 24; 11(2):e1004677 (2015)

Yu Q, et al., *A functional insertion/deletion polymorphism in the promoter of PDCD6IP is associated with the susceptibility of hepatocellular carcinoma in a Chinese population*. DNA Cell Biol. 32 (8), 451-457 (2013)

Bissig C, et al., *Viral infection controlled by a calcium-dependent lipid-binding module in ALIX*. Dev. Cell 25 (4), 364-373 (2013)

Okumura M, et al., *VPS37 isoforms differentially modulate the ternary complex formation of ALIX, ALG-2, and ESCRT-I*. Biosci. Biotechnol. Biochem. 77 (8), 1715-1721 (2013)

## Applications

1. May be used for in vitro PDCD6IP mediated intraluminal endosomal vesicle formation / in enveloped virus budding pathway 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 protein-protein interaction assay.
3. As enzymatic substrate for various proteases.
4. Potential biomarker protein for tumor treatment / prognosis, such as prostate cancer.
5. As immunogen for specific antibody production.

## Quality Control

Purity: > 90% by SDS-PAGE.

## Recombinant Protein Sequence



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MASMTGGQQMGRGHHHHHGNLYFQGGFATFISVQLKKTSEVDLAKPLVKFIQQTYPSSGGEEQ  
AQYCRAAEELSKLRRAAVGRPLDKHEGALETLLRYYDQICSIIEPKFPFSENQICLTFTWKDAFD  
KGSFLGGSVKLLALASLGYEKSCVLFNCAALASQIAAEQNLDNDEGLKIAAKHYQFASGAFHLIK  
ETVLSALSREPTVDISPDTVGTLSLIMLAQAQEVFFLKATRDKMKDAIIAKLANQAADYFGDAF  
KQCQYKDTLPKEVFPVLAAKHCIMQANA EYHQSI LAKQQKKFGEEIARLQHA AE LIKTVASRYD  
EYVNVKDFSDKINRALAAAKDNDFIYHDRVPLKDLDP I GKATLVKSTPVNVPISQKFTDLFE  
KMVPVSVQQSLAAYNQRKADLVNRSIAQMREATTLANGVLASLNLPAAI EDVSGDTPVQSILTK  
SRSVIEQGGIQTVDQLIKELPELLQRNREILDESLRLLDEEEATDNDLRAKFKERWQRTPSNEL  
YKPLRAEGTNFRTVLDKAVQADGQVKECYQSHRDTIVLLCKPEPELNAAIP SANPAKTMQGSEV  
VNVLSLLSNLDEVKKEREGL ENDLKSVNFDMT SKFLTAL AQDGVINEEALSVTELD R VYGGLT  
TKVQESLKKQEGLLKNIQVSHQEF SKMKQSNNEANLREEVLK NLATAYDNFVELVANLKEGTF  
YNELTEILVRFQNKCSDIVFARKTERDELLKDLQOSIAREPSAPSIPTPAYQSSPAGGHAPTPP  
TPAPRTMPPTKPPPARPPPPVLPANRAPSATAPSPVGAGTAAPAPSQTPGSAPPPQAQGPYP  
TYPGYPGYCQMPMPMGYNPYAYGQYNMPYPPVYHQSPGQAPYPGPQQPSYPPFPQPPQQSYYPQQ