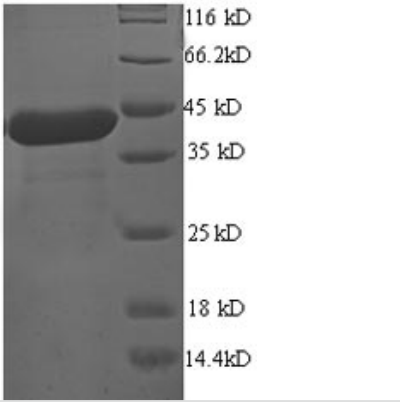
Recombinant Human Programmed cell death protein 6 (PDCD6)

Product Code	CSB-EP017672HU
Relevance	Calcium-binding protein required for T-cell receptor-, Fas-, and glucocorticoid-induced cell death. May mediate Ca2+-regulated signals along the death pathway . Calcium-dependent adapter necessary for the association between PDCD6IP and TSG101. Interaction with DAPK1 can accelerate apoptotic cell death by increasing caspase-3 activity. May inhibit KDR/VEGFR2-dependent angiogenesis; the function involves inhibition of VEGF-induced phosphoprylation of the Akt signaling pathway. Ses to play a role in the regulation of the distribution and function of MCOLN1 in the endosomal pathway. Isoform 2 has a lower Ca2+ affinity than isoform 1. Isoform 1 and, to a lesser extend, isoform 2, can stabilize SHISA5.5 Publications
Abbreviation	Recombinant Human ALG2 protein
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	O75340
Alias	Apoptosis-linked gene 2 protein;Probable calcium-binding protein ALG-2
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	MAAYSYRPGPGAGPGPAAGAALPDQSFLWNVFQRVDKDRSGVISDTELQQA LSNGTWTPFNPVTVRSIISMFDRENKAGVNFSEFTGVWKYITDWQNVFRTYDR DNSGMIDKNELKQALSGFGYRLSDQFHDILIRKFDRQGRGQIAFDDFIQGCIVL QRLTDIFRRYDTDQDGWIQVSYEQYLSMVFSIV
Research Area	Apoptosis
Source	E.coli
Target Names	PDCD6
Expression Region	1-191aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal GST-tagged
Mol. Weight	48.9kDa
Protein Length	Full Length
Image	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

Recombinant Human Programmed cell death protein 6 (PDCD6) is produced in E. coli and contains the complete protein sequence from amino acids 1 to 191. It carries an N-terminal GST tag, which makes purification and detection more straightforward. The protein reaches purity levels above 90% as confirmed by SDS-PAGE, suggesting it meets high-quality standards for research work. This product is intended strictly for research use only and is not suitable for therapeutic or diagnostic applications.

PDCD6, also called ALG2, is a calcium-binding protein that appears to be involved in several cellular processes, including apoptosis and signal transduction pathways. It seems to play an important role in regulating programmed cell death, which is likely essential for maintaining cellular balance. Research on PDCD6 may be particularly significant because of its involvement in cellular stress responses and potential connections to apoptosis-related disorders.

Potential Applications

Note: The applications listed below are based on what we know about this protein's biological functions, published research, and experience from experts in the field. However, we haven't fully tested all of these applications ourselves yet. We'd recommend running some preliminary tests first to make sure they work for your specific research goals.

1. Protein-Protein Interaction Studies

This full-length recombinant human PDCD6 protein can help investigators examine its binding partners and interaction networks in laboratory settings. The N-terminal GST tag makes pull-down assays possible, where researchers can attach the protein to glutathione-sepharose beads to capture interacting proteins from cell lysates or purified protein preparations. These studies might help clarify the molecular mechanisms behind PDCD6 function and potentially identify new binding partners. The high purity (>90%) appears to ensure reliable results with minimal background noise from contaminating proteins.

2. Antibody Development and Validation

The recombinant PDCD6 protein works well as an antigen for creating specific

antibodies against human PDCD6. Researchers can inject this protein into animals for polyclonal antibody production or use it as a screening antigen when developing monoclonal antibodies. The GST tag makes purification and attachment easier during antibody screening, while the full-length design means that antibodies should recognize natural epitopes found in endogenous PDCD6.

3. Biochemical Characterization and Enzymatic Assays

This purified recombinant protein can be used for detailed biochemical analysis of PDCD6 properties—things like thermal stability, pH sensitivity, and what cofactors it might need. Researchers can run various laboratory assays to understand how the protein behaves under different conditions. The E. coli expression system produces enough material for multiple experimental approaches, and the high purity level appears to allow for accurate measurements of the protein's natural properties.

4. ELISA-Based Quantitative Assays

The GST-tagged PDCD6 protein can work as a standard or capture reagent in enzyme-linked immunosorbent assays (ELISA) for research purposes. The GST tag allows for consistent attachment to ELISA plates through anti-GST antibodies, which enables development of sandwich or competitive ELISA formats. Such assays might be used to measure PDCD6 levels in experimental samples or to study how various treatments affect PDCD6 expression in cell culture systems.

5. Structural and Biophysical Studies

The high-purity recombinant PDCD6 protein provides suitable material for structural biology approaches such as X-ray crystallography, NMR spectroscopy, or cryo-electron microscopy studies. The full-length protein (1-191aa) represents the complete human PDCD6 sequence, which makes it valuable for understanding the overall protein structure and different conformational states. The protein can also be used in biophysical techniques like dynamic light scattering, analytical ultracentrifugation, or surface plasmon resonance to characterize its oligomerization state and binding kinetics.

Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.
Shelf Life	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.