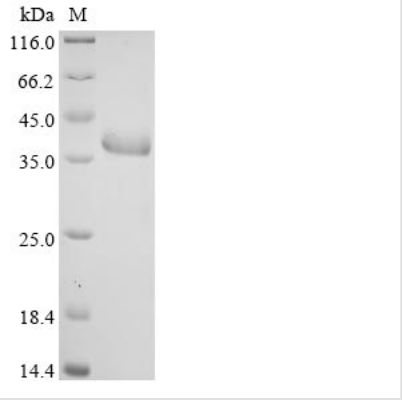
Recombinant Human Fructose-bisphosphate aldolase C (ALDOC)

Product Code	CSB-BP001587HU
Abbreviation	Recombinant Human ALDOC 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.	P09972
Form	Liquid or Lyophilized powder
Storage Buffer	If the delivery form is liquid, the default storage buffer is Tris/PBS-based buffer, 5%-50% glycerol. If the delivery form is lyophilized powder, the buffer before lyophilization is Tris/PBS-based buffer, 6% Trehalose.
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	MPHSYPALSAEQKKELSDIALRIVAPGKGILAADESVGSMAKRLSQIGVENTEENRRLYRQVLFSADDRVKKCIGGVIFFHETLYQKDDNGVPFVRTIQDKGIVVGIKVDKGVVPLAGTDGETTTQGLDGLSERCAQYKKDGADFAKWRCVLKISERTPSALAILENANVLARYASICQQNGIVPIVEPEILPDGDHDLKRCQYVTEKVLAAVYKALSDHHVYLEGTLLKPNMVTPGHACPIKYTPEEIAMATVTALRRTVPPAVPGVTFLSGGQSEEEASFNLNAINRCPLPRPWALTFSYGRALQASALNAWRGQRDNAGAATEEFIKRAEVNGLAAQGKYEGSGEDGGAAAQSLYIANHAY
Research Area	Cancer
Source	Baculovirus
Target Names	ALDOC
Expression Region	1-364aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	C-terminal 6xHis-tagged
Mol. Weight	40.5 kDa
Protein Length	Full Length
Image	



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

Description

Recombinant Human Fructose-bisphosphate aldolase C (ALDOC) is produced through a baculovirus expression system, creating a full-length protein that spans amino acids 1-364. The protein carries a C-terminal 6xHis tag, which streamlines both purification and detection processes. SDS-PAGE analysis indicates a purity level greater than 90%, suggesting this protein may serve well for research applications that demand high-quality reagents.

Fructose-bisphosphate aldolase C (ALDOC) functions as an enzyme in the glycolytic pathway. It catalyzes the reversible conversion of fructose-1,6-bisphosphate to glyceraldehyde 3-phosphate and dihydroxyacetone phosphate. The enzyme appears to play a critical role in energy metabolism and shows predominant expression in brain tissue. Research into ALDOC is likely significant for understanding metabolic processes and may help investigate various neurological conditions.

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 Using His-Tag Pull-Down Assays

The C-terminal 6xHis tag allows for nickel-affinity purification and pull-down experiments that can identify potential binding partners of ALDOC. Researchers can immobilize this recombinant protein on nickel-coated beads or columns, then incubate it with cell lysates or purified protein libraries to capture interacting proteins. Mass spectrometry or Western blotting can then analyze the captured complexes to identify novel ALDOC-interacting proteins. This method appears particularly valuable for studying the non-enzymatic functions of aldolase C in cellular signaling pathways.

2. Antibody Development and Validation

The full-length recombinant ALDOC protein, with its >90% purity, may serve as an excellent immunogen for generating specific antibodies against human

aldolase C. Laboratory animals can be immunized with this protein for polyclonal antibody production, or it can function as an antigen for monoclonal antibody screening. The purified protein also works as a positive control and standard for validating antibody specificity in Western blotting, immunoprecipitation, and ELISA applications.

3. Biochemical Characterization and Enzyme Kinetics Analysis

This recombinant ALDOC enables detailed biochemical studies, including protein stability analysis, thermal denaturation studies, and pH optimization experiments. Circular dichroism spectroscopy or fluorescence-based assays can investigate the protein's folding characteristics. While biological activity remains untested, researchers can thoroughly characterize the protein structure and stability parameters to establish baseline biochemical properties for comparative studies.

4. His-Tagged Protein Purification Method Development

The 6xHis-tagged ALDOC works as a model protein for optimizing nickel-affinity chromatography protocols and developing improved purification strategies. This protein allows researchers to test different buffer conditions, imidazole gradients, and column matrices to enhance purification efficiency and yield. It can also validate new His-tag purification technologies or train personnel in recombinant protein purification techniques.

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.