



**LD Biopharma, Inc.**  
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Tel: 858-876-8266  
<http://www.ldbiopharma.com>

## - PRODUCT DATA SHEET -

**Name of Product:** Recombinant Human ALDOA Protein  
**Catalog Number:** hRP-1921  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

The protein encoded by this gene, Aldolase A (fructose-bisphosphate aldolase), is a glycolytic enzyme that catalyzes the reversible conversion of fructose-1,6-bisphosphate to glyceraldehyde 3-phosphate and dihydroxyacetone phosphate. Three aldolase isozymes (A, B, and C), encoded by three different genes, are differentially expressed during development. Aldolase A is found in the developing embryo and is produced in even greater amounts in adult muscle. Aldolase A expression is repressed in adult liver, kidney and intestine and similar to aldolase C levels in brain and other nervous tissue. Aldolase A deficiency has been associated with myopathy and hemolytic anemia. Alternative splicing and alternative promoter usage results in multiple transcript variants. Anti-ALDOA antibody has been detected in auto-immuno-disease's patient blood sample.

Full-length human ALDOA1 cDNA (363 aa) was constructed with codon optimization and expressed with N-terminal T7-His-TEV cleavage site Tag (29aa) fusion. 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:** ALDOA (ALDA; NY-LU-1, GSD12; HEL-S-87p)  
**Accession Number:** NP\_000025  
**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



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Long F, et al., *Role of aldolase A in osteosarcoma progression and metastasis: in vitro and in vivo evidence*. Oncol. Rep. 32 (5), 2031-2037 (2014)

Izzo P, et al. *Human aldolase A gene. Structural organization and tissue-specific expression by multiple promoters and alternate mRNA processing*. Eur. J. Biochem. 174 (4), 569-578 (1988)

Rehbein-Thoner, M. et al., *The changes in aldolase isoenzyme pattern during development of the human kidney and small intestine--demonstrated in organ extracts and tissue sections*. Hoppe-Seyler's Z. Physiol. Chem. 358 (2), 169-180 (1977)

## Applications

1. May be used for in vitro ALDOA mediated glycolytic enzyme pathway regulation study for human muscle cells or tumor 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. Potential diagnostic protein for auto-immune diseases.
4. As immunogen for specific antibody production.

## Quality Control

Purity: > 90% by SDS-PAGE.

## Recombinant Protein Sequence

[MASMTGGQQMGRGHHHHHENLYFQGGEF](#) PYQYPALTPEQKKELSDIAHRIVAPGKGILAADES  
TGSIAKRLQSIGTENTEENRRFYRQLLLTADDRVNPCIGGVILFHETLYQKADDGRPFPPQVIKS  
KGGVVGIIKVDKGVVPLAGTNGETTTQGLDGLSERCAQYKKDGADFAKWRCVLKIGEHTPSALAI  
MENANVLARYASICQQNGI V P I V E P E I L P D G D H L K R C Q Y V T E K V L A A V Y K A L S D H H I Y L E G T L  
L K P N M V T P G H A C T Q K F S H E E I A M A T V T A L R R T V P P A V T G I T F L S G G Q S E E E A S I N L N A I N K C P L  
L K P W A L T F S Y G R A L Q A S A L K A W G G K K E N L K A A Q E E Y V K R A L A N S L A C Q G K Y T P S G Q A G A A S E S  
L F V S N H A Y