Data Sheet (Cat.No.TMPY-02622)

TargetMol

Aldolase B Protein, Human, Recombinant (GST)

General Information

Synonyms:	aldolase B, fructose-bisphosphate;ALDO2;ALDB
Protein Construction:	A DNA sequence encoding the human ALDOB (P05062) (Ala 2-Tyr 364) was fused with the GST tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	E. coli
Accession:	P05062
Molecular Weight:	66.5 kDa (predicted); 60 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 88 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.5. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

The aldolase family members involved in metabolism and glycolysis are present in three isoforms: ALDOA, ALDOB, and ALDOC. Aldolases are differentially expressed in human tissues, and aberrant expression has been observed in several human diseases and cancer types. Via GATA6, metastatic cells in the liver upregulate the enzyme aldolase B (ALDOB), which enhances fructose metabolism and provides fuel for major pathways of central carbon metabolism during tumor cell proliferation. Targeting ALDOB or reducing dietary fructose significantly reduces

liver metastatic growth but has little effect on the primary tumor. Hereditary fructose intolerance (HFI) is an autosomal recessive disorder caused by aldolase B (ALDOB) deficiency resulting in an inability to metabolize fructose. The toxic accumulation of intermediate fructose-1-phosphate causes multiple metabolic disturbances, including postprandial hypoglycemia, lactic acidosis, electrolyte disturbance, and liver/kidney dysfunction.

Reference

Cox TM. (1994) Aldolase B and fructose intolerance. FASEB J. 8(1): 62-71.
Malay AD, et al. (2005) Structure of the thermolabile mutant aldolase B, A149P: molecular basis of hereditary fructose intolerance. J Mol Biol. 347(1): 135-44.
Susan PP, et al. (2001) Starvation-induced lysosomal degradation of aldolase B requires glutamine 111 in a signal sequence for chaperone-mediated transport. J Cell Physiol. 187(1): 48-58.