Data Sheet (Cat.No.TMPY-01618)

TargetMol

GLO1 Protein, Mouse, Recombinant (His)

General Information

Synonyms:	glyoxalase I;Glo-1r;GLY1;Glo1-r;2510049H23Rik;Glo1-s;AW550643;Glo-1;Qglo;Glo-1s;1110008E19Rik;0610009E22Rik
Protein Construction:	A DNA sequence encoding the mouse GLO1 (NP_079650.3) (Ala 2-Ile 184) was expressed, with a polyhistide tag at the N-terminus. Predicted N terminal: Met
Species:	Mouse
Expression Host:	E. coli
Accession:	A5GZX3
Molecular Weight:	21.6 kDa (predicted); 25 and 48 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:	> 85 % 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 7.4. 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

Lactoylglutathione lyase, also known as Methylglyoxalase, Aldoketomutase, Glyoxalase I, Ketone-aldehyde mutase, S-D-lactoylglutathione methylglyoxal lyase and GLO1, is a member of the glyoxalase I family. GLO1 / Glyoxalase I is a ubiquitous cellular defense enzyme involved in the detoxification of methylglyoxal, a cytotoxic byproduct of glycolysis. Accumulative evidence suggests an important role of GLO1 expression in protection

against methylglyoxal-dependent protein adduction and cellular damage associated with diabetes, cancer, and chronological aging. GLO1 / Glyoxalase I has been implicated in anxiety-like behavior in mice and in multiple psychiatric diseases in humans. GLO1 / Glyoxalase I catalyzes the conversion of hemimercaptal, formed from methylglyoxal and glutathione, to S-lactoylglutathione. GLO1 / Glyoxalase I exists in three separable isoforms which originate from two alleles in the genome. These correspond to two homodimers and one heterodimer composed of two subunits showing different electrophoretic properties. GLO1 upregulation may play a functional role in glycolytic adaptations of cancer cells.

Reference

Wu, YY. et al., 2008,Prog Neuropsychopharmacol Biol Psychiatry. 32 (7):1740-4.
Williams,R. et al., 2009, PLoS One 4 (3): e4649.
Antognelli,C. et al., 2009, BMC Cancer 9 :115.Bair,W.B. et al., 2010, Melanoma Res 20 (2):85-96.