

GLO1/Glyoxalase I Protein, Mouse (His)

Cat. No.:	HY-P75162
Synonyms:	Lactoylglutathione lyase; Glyoxalase I; Glx I
Species:	Mouse
Source:	E. coli
Accession:	Q9CPU0/NP_079650.3 (A2-I184)
Gene ID:	109801
Molecular Weight:	Approximately 25&48 kDa

PROPERTIES

AA Sequence	<p>A E P Q P A S S G L T D E T A F S C C S D P D P S T K D F L L Q Q T M L R I K D</p> <p>P K K S L D F Y T R V L G L T L L Q K L D F P A M K F S L Y F L A Y E D K N D I</p> <p>P K D K S E K T A W T F S R K A T L E L T H N W G T E D D E T Q S Y H N G N S D</p> <p>P R G F G H I G I A V P D V Y S A C K R F E E L G V K F V K K P D D G K M K G L</p> <p>A F I Q D P D G Y W I E I L N P N K I A T I I</p>
Biological Activity	Measured by its ability to catalyze the formation of S-D-lactoylglutathione from the hemimercaptal adduct that forms spontaneously between methylglyoxal and reduced glutathione. The specific activity is 100.39 nmol/min/μg, as measured under the described conditions.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 μm filtered solution of 20 mM PB, 150 mM NaCl, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	Glyoxalase I (GLO1), also known as lactoylglutathione lyase, is a critical enzyme involved in cellular detoxification processes. GLO1 catalyzes the conversion of hemimercaptal, a compound formed from the reaction between methylglyoxal and glutathione, into S-lactoylglutathione. This enzymatic activity is essential for clearing toxic methylglyoxal, a reactive
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dicarbonyl compound, and preventing its harmful effects on cellular components. Moreover, GLO1 plays a role in regulating the transcriptional activity of NF-kappa-B, potentially influencing cellular responses to inflammation. Additionally, GLO1 is required for normal osteoclastogenesis, implicating its significance in bone development and remodeling. The multifaceted functions of GLO1 underscore its importance in cellular homeostasis and its potential involvement in various physiological processes.

Caution: Product has not been fully validated for medical applications. For research use only.

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