Recombinant Human Glyoxalase

Cat. No. GLO1-125H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant human GLO1 protein was expressed in E.coli and purified by using conventional chromatography techniques, 20.7 kDa (184 aa).
Species	Human
Source	E.coli
Description	Glyoxalase I, also known as GLO1, belongs to the glyoxalasefamily. Glyoxalase I is responsible for the catalysis and formation of S-lactoyl-glutathione from methylglyoxal condensation and reduced glutathione.This enzyme is ubiquitously expressed and is also present in many tumor cell lines, in which its concentration is often upregulated.
Sequences of amino acids	MAEPQPPSGG LTDEAALSCC SDADPSTKDF LLQQTMLRVK DPKKSLDFYT RVLGMTLIQK CDFPIMKFSL YFLAYEDKND IPKEKDEKIA WALSRKATLE LTHNWGTEDD ETQSYHNGNS DPRGFGHIGI AVPDVYSACK RFEELGVKFV KKPDDGKMKG LAFIQDPDGY WIEILNPNKM ATLM
Purity	> 90% by SDS - PAGE
Form	Liquid. In 20 mM Tris-HCl buffer (pH 8.0) containing 1 mM DTT, 10% glycerol
Molecular Weight	20.7 kDa (184 aa), confirmed by MALDI-TOF
Concentration	1 mg/ml (determined by Bradford assay)

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Biological activity	Specific activity: >0.4 units/mg (please enquire for specific batch value). One unit will form 1.0 umol of S-lactoylglutathione from methylglyoxal and reduced glutathione per minute at pH 7.5, at 25C. Specific activity was expressed in units/mg of protein.
Activity Assay	1. Prepare a 1.5ml reaction mix into a suitable container: The final concentrations are 79 mM potassium phosphate, 0.033%(w/v) reduced glutathine, 0.003% (w/v) bovine serum albumin. 2. Equilibrate to 25C and monitor at A240nm (absorbance) until the value is constant, using a spectrophotometer. 3. Add 50ul of recombinant glyoxalase I solution with various concentrations (0.5ug, 1ug, 2ug) in 1.4ml reaction buffer. 4. Immediately mix by inversion and record the increase at A240nm for 5 minutes.
Storage	Can be stored at +4°C short term (1-2 weeks). For long term storage, aliquot and store at -20°C or -70°C. Avoid repeated freezing and thawing cycles.

GENE INFORMATION

Gene Name	GLO1 glyoxalase I [Homo sapiens]
Synonyms	GLO1; glyoxalase I; GLYI; GLOD1; GLO1; EC 4.4.1.5; OTTHUMP00000016339; lactoyl glutathione lyase; glyoxalase domain containing 1; Aldoketomutase; Methylglyoxalase; Glx I; etone-aldehyde mutase; S-D-lactoylglutathione methylglyoxal lyase; Lactoylglutathione lyase; Ketone-aldehyde mutase
Gene ID	2739
mRNA Refseq	NM_006708
Protein Refseq	NP_006699.2
MIM	138750

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UniProt ID	Q04760
Chromosome Location	6p21.3-p21.1
Pathway	Pyruvate metabolism
Function	lactoylglutathione lyase activity; lyase activity; metal ion binding; zinc ion binding

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