

Hydroxyacid oxidase 1 Protein, Mouse (His)

Cat. No.:	HY-P71655
Synonyms:	Hao1; Gox1; Hao-1; Hydroxyacid oxidase 1; HAOX1; EC 1.1.3.15; Glycolate oxidase; GOX
Species:	Mouse
Source:	E. coli
Accession:	Q9WU19 (1M-370I)
Gene ID:	15112
Molecular Weight:	Approximately 45.0 kDa

PROPERTIES

AA Sequence	<pre> MLPRLVCI SD YEQHVR SVLQ KSVYDY YRSG ANDQET LADN IQAFSRWKLY PRMLRN VADI DLSTSV L GQR VSMPIC V GAT AMQCMAHVDG ELATVR ACQT MGTGMM LSSW ATSSIE EVAE AGPEALRWMQ LYIYKD REIS RQIVKR AEKQ GYKAI FVTVD TPYLG NRIDD VRNRFK LPPQ LRMKNF ETND LAFSPK GNFG DNSGLAEYVA QAIDPS LSWD DITWLR RLTS LPVVKG ILR GDDAKEAVKH GVDGIL VSNH GARQLD GVPA TIDVLP EIVE AVEGKVEVFL DGGVRK GTDV LKALAL GAKA V FVGRP I IWG LAFQGEKGVQ DVLEIL KEEF RLAMAL SGCQ NVKVID KTLV RKNPLAVSKI </pre>
Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Lyophilized powder.
Formulation	Lyophilized after extensive dialysis against solution in Tris-based buffer, 50% glycerol.
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.
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	Hydroxyacid oxidase 1 (HAO1) is a versatile (S)-2-hydroxy-acid oxidase with a broad substrate specificity, exhibiting a
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marked preference for glycolate oxidation. This enzymatic activity results in the production of glyoxylate, a crucial precursor essential for the peroxisomal synthesis of glycine by alanine-glyoxylate aminotransferase. This pathway plays a pivotal role in detoxifying glyoxylate, preventing its accumulation and the potential formation of kidney stones. HAO1 further displays the ability to catalyze the oxidation of glyoxylate and long-chain hydroxyacids, such as 2-hydroxyhexadecanoate and 2-hydroxyoctanoate. While active in vitro with the artificial electron acceptor 2,6-dichlorophenolindophenol (DCIP), it is believed that O₂ serves as the physiological electron acceptor, leading to the production of H₂O₂. HAO1's multifaceted enzymatic capabilities underscore its significance in various metabolic pathways.

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

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