HAO1 Protein, Human (Trx-His)

Cat. No.:	HY-P70932
Synonyms:	Hydroxyacid Oxidase 1; HAOX1; Glycolate Oxidase; GOX; HAO1; GOX1; HAOX1
Species:	Human
Source:	E. coli
Accession:	Q9UJM8 (M1-I370)
Gene ID:	54363
Molecular Weight:	Approximately 56.0 kDa

PROPERTIES

AA Sequence	MLPRLICIND YEQHAKSVLP KSIYDYYRSG ANDEETLADN IAAFSRWKLY PRMLRNVAET DLSTSVLGQR VSMPICVGAT AMQRMAHVDG ELATVRACQS LGTGMMLSSW ATSSIEEVAE AGPEALRWLQ LYIYKDREVT KKLVRQAEKM GYKAIFVTVD TPYLGNRLDD VRNRFKLPPQ LRMKNFETST LSFSPEENFG DDSGLAAYVA KAIDPSISWE DIKWLRRLTS LPIVAKGILR GDDAREAVKH GLNGILVSNH GARQLDGVPA TIDVLPEIVE AVEGKVEVFL DGGVRKGTDV LKALALGAKA VFVGRPIVWG LAFQGEKGVQ DVLEILKEEF RLAMALSGCQ NVKVIDKTLV RKNPLAVSKI
Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Solution.
Formulation	Supplied as a 0.2 μm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	N/A
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

DESCRIPTION

Background	HAO1 Protein exhibits broad substrate specificity as an (S)-2-hydroxy-acid oxidase, with a notable preference for glycolate

oxidation. This enzymatic activity generates glyoxylate, a crucial precursor utilized by alanine-glyoxylate aminotransferase in the peroxisomal synthesis of glycine. This pathway plays a vital role in detoxifying glyoxylate, preventing its accumulation, which could otherwise lead to the formation of kidney stones. Additionally, HAO1 can catalyze the oxidation of glyoxylate and long-chain hydroxyacids, such as 2-hydroxyhexadecanoate and 2-hydroxyoctanoate, albeit with lower catalytic efficiency. 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. Notably, HAO1 does not exhibit activity on L-lactate and 2-hydroxybutanoate. This multifaceted enzymatic functionality underscores its importance in diverse metabolic pathways.

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