

ETHE1 Protein, Human (His)

Cat. No.:	HY-P76324
Synonyms:	Persulfide dioxygenase ETHE1; Sulfur dioxygenase ETHE1; HSCO
Species:	Human
Source:	E. coli
Accession:	O95571 (L13-A254)
Gene ID:	23474
Molecular Weight:	Approximately 28 kDa.

PROPERTIES

AA Sequence	<pre> LSQRGGSGAP ILLRQMFEPV SCTFTYLLGD RESREAVLID PVLETAPRDA QLIKELGLRL LYAVNTHCHA DHITGSGLLR SLLPGCQSVI SRLSGAQADL HIEDGDSIRF GRFALETRAS PGHTPGCVTF VLNDHSMAFT GDALLIRGCG RTDFQQGCAK TLYHSVHEKI FTLPGDCLY PAHDYHGFTV STVEEERTLN PRLTLSCEEF VKIMGNLNLP KPQQIDFAVP ANMRCGVQTP TA </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 from a 0.2 µm filtered solution of PBS, 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 PBS. 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	ETHE1 protein serves as a crucial sulfur dioxygenase playing an indispensable role in hydrogen sulfide catabolism within the mitochondrial matrix. In this process, hydrogen sulfide (H ₂ S) is initially oxidized by SQRDL, forming cysteine persulfide residues. ETHE1, utilizing molecular oxygen, catalyzes the subsequent oxidation of the persulfide once it has been
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transferred to a thiophilic acceptor like glutathione (R-SSH). This enzymatic activity is vital for maintaining metabolic homeostasis in mitochondria, preventing the accumulation of supraphysiological H₂S levels that could be toxic due to the inhibition of cytochrome c oxidase. Beyond its role in hydrogen sulfide metabolism, ETHE1 was initially identified as a protein capable of shuttling between the nucleus and the cytoplasm. It suppresses p53-induced apoptosis by sequestering the transcription factor RELA/NFKB3 in the cytoplasm, preventing its accumulation in the nucleus.

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

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