

GFER Protein, Rat (His-SUMO)

Cat. No.:	HY-P71571
Synonyms:	Gfer; AlrFAD-linked sulfhydryl oxidase ALR; EC 1.8.3.2; Augmenter of liver regeneration
Species:	Rat
Source:	E. coli
Accession:	Q63042 (1M-198D)
Gene ID:	27100
Molecular Weight:	Approximately 38.8 kDa

PROPERTIES

AA Sequence	M A A P S E P A G F P R G S R F S F L P G G A H S E M T D D L V T D A R G R G A R H R K D N A P A A A P A P K G L E H G K R P C R A C V D F K S W M R T Q Q K R D I K F R E D C P Q D R E E L G R N T W A F L H T L A A Y Y P D M P T P E Q Q Q D M A Q F I H I F S K F Y P C E E C A E D I R K R I D R S Q P D T S T R V S F S Q W L C R L H N E V N R K L G K P D F D C S R V D E R W R D G W K D G S C D
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	<p>GFER, a flavin adenine dinucleotide (FAD)-dependent sulfhydryl oxidase, serves as a crucial enzyme in the mitochondrial intermembrane space by facilitating the regeneration of redox-active disulfide bonds in CHCHD4/MIA40, a chaperone essential for disulfide bond formation and protein folding. The intricacy of this process involves the reduced form of CHCHD4/MIA40 transiently forming an intermolecular disulfide bridge with GFER/ERV1. This interaction results in the replenishment of essential disulfide bonds in CHCHD4/MIA40, while GFER/ERV1 undergoes re-oxidization by donating electrons to cytochrome c or molecular oxygen. Beyond its role in redox regulation, GFER may play a functional role in liver</p>
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regeneration and spermatogenesis, further highlighting its significance in cellular processes beyond mitochondrial protein folding.

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

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