

Gamma-GCS Protein, E.coli (His-SUMO)

Cat. No.:	HY-P71511
Synonyms:	gshA; gsh-I; b2688; JW2663Glutamate--cysteine ligase; EC 6.3.2.2; Gamma-ECS; GCS; Gamma-glutamylcysteine synthetase
Species:	E.coli
Source:	E. coli
Accession:	P0A6W9 (1M-518A)
Gene ID:	944881
Molecular Weight:	Approximately 74.3 kDa

PROPERTIES

AA Sequence	M I P D V S Q A L A W L E K H P Q A L K G I Q R G L E R E T L R V N A D G T L A T T G H P E A L G S A L T H K W I T T D F A E A L L E F I T P V D G D I E H M L T F M R D L H R Y T A R N M G D E R M W P L S M P C Y I A E G Q D I E L A Q Y G T S N T G R F K T L Y R E G L K N R Y G A L M Q T I S G V H Y N F S L P M A F W Q A K C G D I S G A D A K E K I S A G Y F R V I R N Y Y R F G W V I P Y L F G A S P A I C S S F L Q G K P T S L P F E K T E C G M Y Y L P Y A T S L R L S D L G Y T N K S Q S N L G I T F N D L Y E Y V A G L K Q A I K T P S E E Y A K I G I E K D G K R L Q I N S N V L Q I E N E L Y A P I R P K R V T R S G E S P S D A L L R G G I E Y I E V R S L D I N P F S P I G V D E Q Q V R F L D L F M V W C A L A D A P E M S S S E L A C T R V N W N R V I L E G R K P G L T L G I G C E T A Q F P L P Q V G K D L F R D L K R V A Q T L D S I N G G E A Y Q K V C D E L V A C F D N P D L T F S A R I L R S M I D T G I G G T G K A F A E A Y R N L L R E E P L E I L R E E D F V A E R E A S E R R Q Q E M E A A D T E P F A V W L E K H A
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

Gamma-GCS protein, a key enzyme in sulfur metabolism and glutathione biosynthesis, facilitates the critical step 1/2 of glutathione formation from L-cysteine and L-glutamate. As part of this enzymatic process, gamma-GCS catalyzes the incorporation of L-cysteine and L-glutamate, initiating the synthesis of glutathione. This molecule, essential for cellular antioxidant defense and detoxification, plays a crucial role in maintaining redox homeostasis within the cell. By orchestrating the initial steps of glutathione biosynthesis, gamma-GCS contributes to the cellular mechanisms that protect against oxidative stress and support overall cellular health.

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

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