

## gucD Protein, *Bacillus subtilis*

Cat. No.:	HY-P701905
Synonyms:	gucD; Alpha-ketoglutaric semialdehyde dehydrogenase; alphaKGSA dehydrogenase; 2; 5-dioxovalerate dehydrogenase
Species:	Others
Source:	E. coli
Accession:	P42236 (S2-P488)
Gene ID:	938406
Molecular Weight:	

### PROPERTIES

Appearance	Solution.
Formulation	Supplied as a 0.22 µm filtered solution of 50 mM Tris-HCl, pH7.5, 200 mM NaCl, 20% glycerol.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	Please use rapid thawing with running water to thaw the protein.
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	KYAT1 protein orchestrates the irreversible transamination of the L-tryptophan metabolite L-kynurenine, culminating in the formation of kynurenic acid (KA). This process holds significance within the tryptophan catabolic pathway and yields KA, known for its broad-spectrum antagonistic activity against the three ionotropic excitatory amino acid receptors, among others. Beyond its role in tryptophan metabolism, KYAT1 is involved in the transformation of cysteine conjugates from specific halogenated alkenes and alkanes into reactive metabolites. Furthermore, KYAT1 catalyzes the beta-elimination of S-conjugates and Se-conjugates of L-(seleno)cysteine, leading to the cleavage of the C-S or C-Se bond. The diverse enzymatic activities of KYAT1 underscore its involvement in key metabolic pathways and xenobiotic processing.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA