Data Sheet (Cat.No.TMPH-00166)

TargetMol

Glycine oxidase Protein, Bacillus subtilis, Recombinant (His & SUMO)

General Information

Synonyms: thiO;goxB;GO;Glycine oxidase;yjbR

Protein Construction: 1-369 aa

Species: Bacillus subtilis

Expression Host: E. coli

Accession: O31616

Molecular Weight: 56.9 kDa (predicted)

AA Sequence: MKRHYEAVVIGGGIIGSAIAYYLAKENKNTALFESGTMGGRTTSAAAGMLGAHAECEERDAFFDFAMHSQRL YKGLGEELYALSGVDIRQHNGGMFKLAFSEEDVLQLRQMDDLDSVSWYSKEEVLEKEPYASGDIFGASFIQD DVHVEPYFVCKAYVKAAKMLGAEIFEHTPVLHVERDGEALFIKTPSGDVWANHVVVASGVWSGMFFKQLGL NNAFLPVKGECLSVWNDDIPLTKTLYHDHCYIVPRKSGRLVVGATMKPGDWSETPDLGGLESVMKKAKTMLP AIQNMKVDRFWAGLRPGTKDGKPYIGRHPEDSRILFAAGHFRNGILLAPATGALISDLIMNKEVNQDWLHAF RIDRKEAVQI

QC Testing

Biological Activity: Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.

Purity: > 90% as determined by SDS-PAGE.

Endotoxin: < 1.0 EU/μg of the protein as determined by the LAL method.

Formulation: Tris-based buffer, 50% glycerol

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Catalyzes the FAD-dependent oxidative deamination of various amines and D-amino acids to yield the corresponding alpha-keto acids, ammonia/amine, and hydrogen peroxide. Oxidizes sarcosine (N-methylglycine),

N-ethylglycine and glycine. Can also oxidize the herbicide glyphosate (N-phosphonomethylglycine). Displays lower activities on D-alanine, D-valine, D-proline and D-methionine. Does not act on L-amino acids and other D-amino acids. Is essential for thiamine biosynthesis since the oxidation of glycine catalyzed by ThiO generates the glycine imine intermediate (dehydroglycine) required for the biosynthesis of the thiazole ring of thiamine pyrophosphate.

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