

Glycine Oxidase H244K, Bacillus subtilis recombinant protein
Glycine oxidase, glycine oxygen oxidoreductase (deaminating), GO
Catalog # PBV11404r

Specification

Glycine Oxidase H244K, Bacillus subtilis recombinant protein - Product info

Primary Accession	O31616
Concentration	4
Calculated MW	43.1 kDa (1-369 aa, NT His Tag) kDa

Glycine Oxidase H244K, Bacillus subtilis recombinant protein - Additional Info

Gene ID	939377
Gene Symbol	thiO
Other Names	
Glycine oxidase, glycine oxygen oxidoreductase (deaminating), GO	
Gene Source	Bacillus subtilis
Source	E. coli
Assay&Purity	SDS-PAGE; ≥90%
Assay2&Purity2	N/A;
Recombinant	Yes
Results	1200 mU/mg
Sequence	1-369 aa
Target/Specificity	
Glycine Oxidase	

Format

Liquid

Storage

-20°C; 4.0 mg/ml in 20 mM potassium phosphate, 100 mM NaCl, pH 8.0 and 10% glycerol

Glycine Oxidase H244K, Bacillus subtilis recombinant protein - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Glycine Oxidase H244K, Bacillus subtilis recombinant protein - Images

Glycine Oxidase H244K, Bacillus subtilis recombinant protein - Background

Glycine oxidase (GO) from *Bacillus subtilis* (EC 1.4.3.19) is a homotetrameric flavin-dependent oxidoreductase. Each GO monomer is non-covalently bound to flavin adenine dinucleotide. GO catalyzes oxidative deamination of various primary and secondary amines (e.g. glycine, sarcosine, N-ethylglycine) and some D-amino acids (e.g. D -alanine, D -proline, D -valine) to the corresponding α -keto acids and hydrogen peroxide. Primarily, glycine oxidase catalyzes the oxidation of glycine in the biosynthesis of thiamine. The variant H244K shows a higher substrate specificity ratio for glycine versus sarcosine and a 5-fold improved specific activity in comparison to the wild-type.

Glycine Oxidase H244K, *Bacillus subtilis* recombinant protein - References

Kunst F., et al. *Nature* 390:249-256(1997).
Nishiya Y., et al. *FEBS Lett.* 438:263-266(1998).
Job V., et al. *J. Biol. Chem.* 277:6985-6993(2002).
Settembre E.C., et al. *Biochemistry* 42:2971-2981(2003).
Moertl M., et al. *J. Biol. Chem.* 279:29718-29727(2004).