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Product Information

Enolase from baker's yeast (*S. cerevisiae*)

Product Number **E 6126**
Storage Temperature -0 °C

Product Description

Enzyme Commission (EC) Number: 4.2.1.11
CAS Number: 9014-08-8
Molecular Weight: 93.069 kDa¹
Extinction Coefficient: $E^{1\%} = 8.95$ (280 nm)¹
pI: 6.1¹
Synonyms: Phosphopyruvate hydratase,
2-Phospho-D-glycerate hydrolase

Enolase from baker's yeast is a homodimer containing two bound Mg^{2+} ions and has a Stoke's radius of 36.2 Å. The peptide consists of 436 amino acids and contains a single cysteine residue. Two of the active site components include His¹⁹¹ and Arg⁴¹⁴.¹ Yeast enolase contains a phosphorylated tyrosine residue and has been reported to be a substrate for phosphorylation by tyrosine protein kinase.²

Enolase catalyzes the following reaction:

2-Phospho-D-glycerate →
phosphoenolpyruvate + H₂O

Reported K_M values are 0.07 mM for 2-Phospho-D-glycerate and 0.09 mM for phosphoenolpyruvate.³ Enolase is activated by Mg^{2+} . It can also be activated by Zn^{2+} , Mn^{2+} , and Cd^{2+} .⁴

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This enzyme is soluble in 15 mM Tris HCl, pH 7.4, (1 mg/ml), yielding a clear solution.

References

1. Chin, C. C., et al., The amino acid sequence of yeast enolase. J. Biol. Chem., **256(3)**, 1377-1384 (1981).
2. Cooper, J. A., et al., Phosphorylation sites in enolase and lactate dehydrogenase utilized by tyrosine protein kinases *in vivo* and *in vitro*. J. Biol. Chem., **259(12)**, 7835-7841 (1984).
3. Methods of Enzymatic Analysis, 2nd ed., vol. I, Bergmyer, H. U., ed., Academic Press (New York, NY: 1974), p. 449.
4. The Enzymes, 3rd ed., vol. V, Boyer, P. D., ed., Academic Press (New York, NY: 1971), pp. 499-538.

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