

## Native Baker's yeast (*S. cerevisiae*) Enolase

Cat. No. NATE-0223

Lot. No. (See product label)

### Introduction

#### Description

Enolase is a metalloenzyme that catalyzes the interconversion of 2-phosphoglycerate to phosphoenolpyruvate. Enolase is essential for both glycolysis and gluconeogenesis. Enolase from baker's yeast is a homodimer containing two bound  $Mg^{2+}$  ions. The molecular weight is 93.069 kDa. The peptide consists of 436 amino acids and contains a single cysteine residue. Two of the active site components include His191 and Arg414. The phosphorylated tyrosine residue present in yeast enolase forms a substrate for phosphorylation by tyrosine protein kinase. Apart from  $Mg^{2+}$ , the enzyme can be activated by  $Zn^{2+}$ ,  $Mn^{2+}$ , and  $Cd^{2+}$ .

#### Applications

Enolase from baker's yeast has been used in a study to investigate the contribution of the antibodies response induced by a low virulent *Candida albicans* strain in protection against systemic candidiasis. Enolase from baker's yeast has also been used in a study to investigate the role of metal ions in catalysis by enolase. The enzyme from Creative Enzymes has been used as an antigen during ELISA. The study used human granulocyte proteins to identify and characterize autoantibodies against catalase and  $\alpha$ -enolase in patients with primary sclerosing cholangitis. It has been used to study temperature- and denaturant-induced yeast enolase denaturation using fourier transform infrared spectroscopy. It has also been used along with other proteins to study gradient chromatofocusing-mass spectrometry; a new technique for protein analysis.

#### Synonyms

EC 4.2.1.11; enolase; 2-phosphoglycerate dehydratase; 14-3-2-protein; nervous-system specific enolase; phosphoenolpyruvate hydratase; 2-phosphoglycerate dehydratase; 2-phosphoglyceric dehydratase; 2-phosphoglycerate enolase;  $\gamma$ -enolase; 2-phospho-D-glycerate hydro-lyase; 9014-08-8

### Product Information

**Source** Baker's yeast (*S. cerevisiae*)

**Form** Lyophilized powder containing Tris buffer salts

**EC Number** EC 4.2.1.11

**CAS No.** 9014-08-8

**Activity** > 50 units/mg protein

**Buffer** 15 mM Tris HCl, pH 7.4: soluble 1.0 mg/mL, clear

**Unit Definition** One unit will convert 1.0  $\mu$ mole of 2-phosphoglycerate to phospho (enol)pyruvate per min at pH 7.4 at 25°C.

### Storage and Shipping Information

**Storage** -20°C