

## Native *Bacillus stearothermophilus* Alanine Racemase

Cat. No. NATE-0045

Lot. No. (See product label)

### Introduction

**Description** Alanine racemase is involved in alanine, aspartate and D-alanine metabolism. 3-Fluoro-D-alanine and D-Cycloserine are known to inhibit alanine racemase. Alanine racemase monomer is composed of two domains, an eight-stranded  $\alpha/\beta$  barrel at the N-terminus and a C-terminal domain. The N-terminus includes residues 1-240, whereas the C-terminal comprises of the  $\beta$ -strand (residues 241-388). One molecule of pyridoxalphosphate (PLP) is present as the cofactor in each subunit.

**Applications** Alanine racemase is used to convert L-alanine into D-alanine. Alanine racemase, from Creative Enzymes, has been used to isomerize L-[U-14C]alanine to a racemic mixture of L/D-[14C]alanine.

**Synonyms** Alanine Racemase; EC 5.1.1.1; 9024-06-0; L-alanine racemase

### Product Information

**Source** *Bacillus stearothermophilus*

**Form** lyophilized powder. Lyophilized from 50 mM phosphate buffer, pH 7.5

**EC Number** EC 5.1.1.1

**CAS No.** 9024-06-0

**Molecular Weight** Mr 78 kDa (2 subunits 39 kDa each)

**Activity** > 10 Iunits/mg solid

**Unit Definition** One unit will convert 1.0  $\mu$ mole of D-alanine to L-alanine per minute at pH 10.5 at 30°C in a coupled assay system with L-alanine dehydrogenase.

### Storage and Shipping Information

**Storage** -20°C