Creative Enzymes®

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 α/β barrel at the N-terminus and a C-terminal domain. The N-terminus includes residues 1-240, whereas the C-terminal comprises of the β-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 µmole 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