Creative Enzymes®

Mutant Alanine Racemase Y354N from Geobacillus stearothermophilus, Recombinant

Cat. No. NATE-1639

Lot. No. (See product label)

Introduction

Description	Mutant Alanine Racemase (Y354N) (mAR-Y354N), a pyridoxal 5-phosphate (PLP) dependent enzyme catalyzes the interconversion of the L-Serine to D-Serine. In WT Alanine Racemase Tyr354 plays a crucial role in defining the strict specificity of AR for alanine, in converting L-Alanine to D-Alanine, which is an important component of the peptidoglycan layer of bacterial cell wall. By mutating the active site Tyr 354 to Asn, the specificity of the enzyme changes and it becomes a racemase with dual specificity for L-Alanine and L-Serine.
Applications	Mutant Alanine racemase Y354N can be used to convert L-serine to D-serine and L-Alanine to D-Alanine.
Synonyms	Alanine Racemase Y354N; alr; dal

Product Information

Species	Geobacillus stearothermophilus
Source	E. coli and fused to His-tag at N-terminus
Form	Lyophilized
Formulation	1 mg/ml in 20 mM Tris-HCl buffer (pH 8.0) containing 100 mM NaCl and 10% glycerol.
EC Number	EC 5.1.1.1
Molecular Weight	43 kDa
Purity	> 99% by SDS-PAGE
Activity	> 50 mU/mg
Unit Definition	One unit enzyme converts 1 µmole of L-serine into D-serine per minute at 37°C and pH 7.4 in the presence of pyridoxal phosphate.

Usage and Packaging

Reconstitution	Reconstitute enzyme in 50 mM phosphate buffer, pH 7.4.

Storage and Shipping Information

Storage	Reconstituted enzyme can be stored in working aliquots at -20°C and use within 3 months. Avoid repeated freeze-thaw cycles.