

Mutant Alanine Racemase Y354N, Active, Recombinant

CATALOG NO:	P1116-200	200 µg
	P1116-500	500 µg
ALTERNATE NAMES:	Alanine Racemase Y354N, alr, dal	
SOURCE:	<i>E.coli</i>	
SEQUENCE:	The sequence is from <i>Geobacillus stearothermophilus</i> , with point mutation Y354N and an N terminal His tag	
PURITY:	> 99% by SDS-PAGE	
MOL. WEIGHT:	43 kDa, HIS tag	
FORM:	Proprietary buffer	
FORMULATION:	Lyophilized	
RECONSTITUTION:	Reconstitute enzyme in 50 mM phosphate buffer, pH 7.4.	
STORAGE CONDITIONS:	Reconstituted enzyme can be stored in working aliquots at -20°C and use within 3 months. Avoid repeated freeze-thaw cycles.	
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.	
SPECIFIC ACTIVITY:	≥ 50 mU/mg, 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	

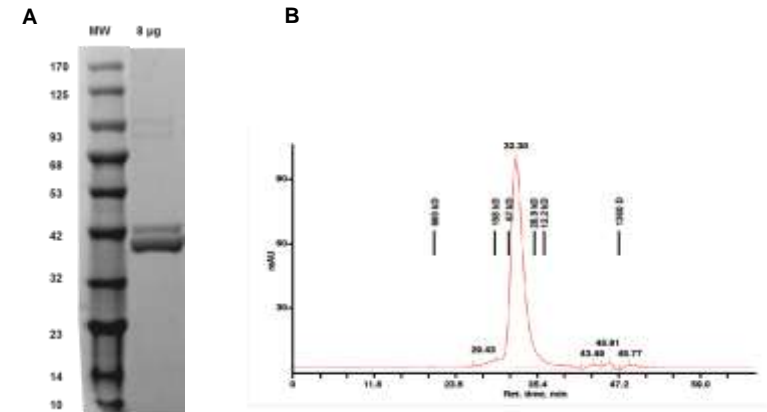


Fig A. SDS-PAGE (4-20%) of Recombinant mAR-Y354N: Recombinant Protein loaded under reducing conditions and stained with Coomassie Blue. The protein shows a predicted MW of ~ 43 kDa

Fig B. Size exclusion chromatography of mAr Y354N: SEC analysis of mAR-Y354N using a Superdex 12 HR 10/30 column at 0.4 ml/min in 50 mM Tris and 0.3 M NaCl pH 7.2

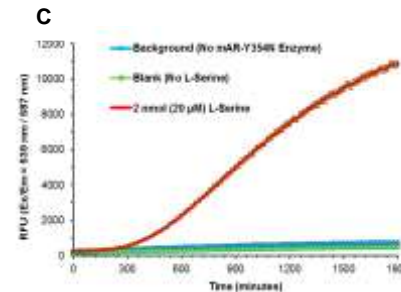


Fig C. Activity plot of mAR-Y354N converting L serine to D-serine. Specific activity of mAR-Y354N is ≥50 mU/mg. mAr Y354N reacts with 20 µM of L-serine at pH 7.4 and 37°C in the presence of pyridoxal phosphate.

RELATED PRODUCTS:

- *B. subtilis* Recombinant, Oxalate oxidase (OxOx) (Cat. No. P1091-20, -100)
- Recombinant *E. coli*, Taurine Dioxygenase (TauD) (Cat. No. P1071-200, -500, -2000)

FOR RESEARCH USE ONLY! Not to be used on humans.