Creative Enzymes®

phenylalanine racemase (ATP-hydrolysing)

Cat. No. EXWM-5369

Lot. No. (See product label)

Introduction

Description	The enzyme phenylalanine racemase is the enzyme that acts on amino acids and derivatives. It activates both the L & D stereo isomers of phenylalanine to form L-phenylalanyl adenylate and D-phenylalanyl adenylate, which are bound to the enzyme. These bound compounds are then transferred to the thiol group of the enzyme followed by conversion of its configuration, the D-isomer being the more favorable configuration of the two, with a 7 to 3 ratio between the two isomers. The racemisation reaction of phenylalanine is coupled with the highly favorable hydrolysis of adenosine triphosphate (ATP) to adenosine monophosphate (AMP) and pyrophosphate (PP), thermodynamically allowing it to proceed. This reaction is then drawn forward by further hydrolyzing PP to inorganic phosphate (Pi), via Le Chatelier's principle.
Synonyms	phenylalanine racemase; phenylalanine racemase (adenosine triphosphate-hydrolysing); gramicidin S synthetase I

Product Information

Form	Liquid or lyophilized powder
EC Number	EC 5.1.1.11
CAS No.	37290-95-2
Reaction	ATP + L-phenylalanine + H2O = AMP + diphosphate + D-phenylalanine
Notes	This item requires custom production and lead time is between 5-9 weeks. We can custom produce according to your specifications.

Storage and Shipping Information

Storage	Store it at +4 ℃ for short term. For long term storage, store it at -20 ℃~-80 ℃.