Creative Enzymes®

L-2-aminoadipate reductase

Cat. No. EXWM-1199

Lot. No. (See product label)

Introduction

Description	This enzyme, characterized from the yeast Saccharomyces cerevisiae, catalyses the reduction of L-2-aminoadipate to (S)-2-amino-6-oxohexanoate during L-lysine biosynthesis. An adenylation domain activates the substrate at the expense of ATP hydrolysis, and forms L-2-aminoadipate adenylate, which is attached to a peptidyl-carrier protein (PCP) domain. Binding of NADPH results in reductive cleavage of the acyl-S-enzyme intermediate, releasing (S)-2-amino-6-oxohexanoate. Different from EC 1.2.1.31, L-aminoadipate-semialdehyde dehydrogenase, which catalyses a similar transformation in the opposite direction without ATP hydrolysis.
Synonyms	LYS2; α-aminoadipate reductase

Product Information

Form	Liquid or lyophilized powder
EC Number	EC 1.2.1.95
Reaction	(S)-2-amino-6-oxohexanoate + NADP+ + AMP + diphosphate = L-2-aminoadipate + NADPH + H+ + ATP (overall reaction); (1a) L-2-aminoadipyl-[LYS2 peptidyl-carrier-protein] + AMP + diphosphate = L-2-aminoadipate + holo-[LYS2 peptidyl-carrier-protein] + ATP; (1b) (S)-2-amino-6-oxohexanoate + holo-[LYS2 peptidyl-carrier-protein] + NADP+ = L-2-aminoadipyl-[LYS2 peptidyl-carrier-protein] + NADPH + H+
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 ℃.