Creative Enzymes®

threonine ammonia-lyase

Cat. No. EXWM-5279

Lot. No. (See product label)

Introduction

Description	Most enzymes that catalyse this reaction are pyridoxal-phosphate-dependent, although some enzymes contain an iron-sulfur cluster instead. The reaction catalysed by both types of enzymes involves the initial elimination of water to form an enamine intermediate (hence the enzyme's original classification as EC 4.2.1.16, threonine dehydratase), followed by tautomerization to an imine form and hydrolysis of the C-N bond. The latter reaction, which can occur spontaneously, is also be catalysed by EC 3.5.99.10, 2-iminobutanoate/2-iminopropanoate deaminase. The enzymes from a number of sources also act on L-serine, cf. EC 4.3.1.17, L-serine ammonia-lyase.
Synonyms	threonine deaminase; L-serine dehydratase; serine deaminase; L-threonine dehydratase; threonine dehydrase; L-threonine deaminase; threonine dehydratase; L-threonine hydro-lyase (deaminating); L-threonine ammonia-lyase

Product Information

Form	Liquid or lyophilized powder
EC Number	EC 4.3.1.19
CAS No.	774231-81-1
Reaction	L-threonine = 2-oxobutanoate + NH3 (overall reaction); (1a) L-threonine = 2-aminobut-2-enoate + H2O; (1b) 2-aminobut-2-enoate = 2-iminobutanoate (spontaneous); (1c) 2-iminobutanoate + H2O = 2-oxobutanoate + NH3 (spontaneous)
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 ℃.