Threonine Deaminase (Crude Enzyme)

Cat. No. NATE-1853

Lot. No. (See product label)

Introduction

Description	Threonine ammonia-lyase, also commonly referred to as threonine deaminase or threonine dehydratase, is an enzyme responsible for catalyzing the conversion of L-threonine into alpha-ketobutyrate and ammonia. Alpha-ketobutyrate can be converted into L-isoleucine, so threonine ammonia-lyase functions as a key enzyme in BCAA synthesis. It employs a pyridoxal-5'-phosphate cofactor, similar to many enzymes involved in amino acid metabolism. It is found in bacteria, yeast, and plants, though most research to date has focused on forms of the enzyme in bacteria. This enzyme was one of the first in which negative feedback inhibition by the end product of a metabolic pathway was directly observed and studied. The enzyme serves as an excellent example of the regulatory strategies used in amino acid homeostasis. This product with the indicated enzyme activity was briefly purified from engineered E. coli.
Applications	molecular biology; synthesis
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

Source	E. coli
Appearance	Clear to translucent yellow solution
EC Number	EC 4.3.1.19
CAS No.	9024-34-4
Activity	Undetermined
Reaction	L-threonine = 2-oxobutanoate + NH 3 (overall reaction) (1a) L-threonine = 2-aminobut-2-enoate + H 2 O (1b) 2-aminobut-2-enoate = 2-iminobutanoate (spontaneous) (1c) 2-iminobutanoate + H 2 O = 2-oxobutanoate + NH 3 (spontaneous)
Notes	Since this product needs to be freshly prepared, it will take about 2 weeks after you confirm the order. Each time of the freeze-thawing may cause partial inactivation. Therefore, it should be dispensed as required and stored at -20 ° C or lower. With the preservation of the extension of time, the enzyme activity will decline to a certain extent, so the product should be used as soon as possible. This product may have turbidity or precipitation in the production and preservation process, it can be mixed after melting and will not affect the normal use. This product is limited to scientific research use, shall not be used for clinical diagnosis or treatment, shall not be used for food or medicine, shall not be stored in ordinary residential. For your safety and health, please wear an experimental suit and wear disposable gloves.

Usage and Packaging

Package	100ml

Storage and Shipping Information

Storage	at -20 °C or lower, for at least 1 month.