Creative Enzymes®

3-hydroxyacyl-[acyl-carrier-protein] dehydratase

Cat. No. EXWM-5047

Lot. No. (See product label)

Introduction

Description	This enzyme is responsible for the dehydration step of the dissociated (type II) fatty-acid biosynthesis system that occurs in plants and bacteria. The enzyme uses fatty acyl thioesters of ACP in vivo. Different forms of the enzyme may have preferences for substrates with different chain length. For example, the activity of FabZ, the ubiquitous enzyme in bacteria, decreases with increasing chain length. Gram-negative bacteria that produce unsaturated fatty acids, such as Escherichia coli, have another form (FabA) that prefers intermediate chain length, and also catalyses EC 5.3.3.14, trans-2-decenoyl-[acyl-carrier protein] isomerase. Despite the differences both forms can catalyse all steps leading to the synthesis of palmitate (C16:0). FabZ, but not FabA, can also accept unsaturated substrates.
Synonyms	fabZ (gene name); fabA (gene name); D-3-hydroxyoctanoyl-[acyl carrier protein] dehydratase; D-3-hydroxyoctanoyl-acyl carrier protein dehydratase; β-hydroxyoctanoyl-acyl carrier protein dehydrase; β-hydroxyoctanoyl thioester dehydratase; β-hydroxyoctanoyl-ACP-dehydrase; (3R)-3-hydroxyoctanoyl-[acyl-carrier-protein] hydro-lyase; (3R)-3-hydroxyoctanoyl-[acyl-carrier-protein] hydro-lyase (oct-2-enoyl-[acyl-carrier protein]-forming); 3-hydroxyoctanoyl-[acyl-carrier-protein] dehydratase

Product Information

Form	Liquid or lyophilized powder
EC Number	EC 4.2.1.59
CAS No.	9030-85-7
Reaction	a (3R)-3-hydroxyacyl-[acyl-carrier protein] = a trans-2-enoyl-[acyl-carrier protein] + H2O
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 ℃.