

6-deoxyerythronolide-B synthase

Cat. No. EXWM-2276

Lot. No. (See product label)

Introduction

Description The product, 6-deoxyerythronolide B, contains a 14-membered lactone ring and is an intermediate in the biosynthesis of erythromycin antibiotics. Biosynthesis of 6-deoxyerythronolide B requires 28 active sites that are precisely arranged along three large polypeptides, denoted DEBS1, -2 and -3. The polyketide product is synthesized by the processive action of a loading didomain, six extension modules and a terminal thioesterase domain. Each extension module contains a minimum of a ketosynthase (KS), an acyltransferase (AT) and an acyl-carrier protein (ACP). The KS domain both accepts the growing polyketide chain from the previous module and catalyses the subsequent decarboxylative condensation between this substrate and an ACP-bound methylmalonyl extender unit, introduced by the AT domain. This combined effort gives rise to a new polyketide intermediate that has been extended by two carbon atoms.

Synonyms erythronolide condensing enzyme; malonyl-CoA:propionyl-CoA malonyltransferase (cyclizing); erythronolide synthase; malonyl-CoA:propanoyl-CoA malonyltransferase (cyclizing); deoxyerythronolide B synthase; 6-deoxyerythronolide B synthase; DEBS

Product Information

Form Liquid or lyophilized powder

EC Number EC 2.3.1.94

CAS No. 87683-77-0

Reaction $\text{propanoyl-CoA} + 6 (2S)\text{-methylmalonyl-CoA} + 6 \text{ NADPH} + 6 \text{ H}^+ = 6\text{-deoxyerythronolide B} + 7 \text{ CoA} + 6 \text{ CO}_2 + \text{H}_2\text{O} + 6 \text{ NADP}^+$

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 °C for short term. For long term storage, store it at -20 °C~-80 °C.