Creative Enzymes®

uroporphyrinogen-III C-methyltransferase

Cat. No. EXWM-1705

Lot. No. (See product label)

Introduction

Description	This enzyme catalyses two sequential methylation reactions, the first forming precorrin-1 and the second leading to the formation of precorrin-2. It is the first of three steps leading to the formation of siroheme from uroporphyrinogen III. The second step involves an NAD+-dependent dehydrogenation to form sirohydrochlorin from precorrin-2 (EC 1.3.1.76, precorrin-2 dehydrogenase) and the third step involves the chelation of Fe2+ to sirohydrochlorin to form siroheme (EC 4.99.1.4, sirohydrochlorin ferrochelatase). In Saccharomyces cerevisiae, the last two steps are carried out by a single bifunctional enzyme, Met8p. In some bacteria, steps 1-3 are catalysed by a single multifunctional protein called CysG, whereas in Bacillus megaterium, three separate enzymes carry out each of the steps, with SirA being responsible for the above reaction. Also involved in the biosynthesis of cobalamin.
Synonyms	uroporphyrinogen methyltransferase; uroporphyrinogen-III methyltransferase; adenosylmethionine-uroporphyrinogen III methyltransferase; S-adenosyl-L-methionine-dependent uroporphyrinogen III methylase; uroporphyrinogen-III methylase; SirA; CysG; CobA [ambiguous - see EC 2.5.1.17] SUMT; uroporphyrin-III C-methyltransferase (incorrect); S-adenosyl-L-methionine:uroporphyrin-III C-methyltransferase (incorrect)

Product Information

Form	Liquid or lyophilized powder
EC Number	EC 2.1.1.107
CAS No.	125752-76-3
Reaction	2 S-adenosyl-L-methionine + uroporphyrinogen III = 2 S-adenosyl-L-homocysteine + precorrin-2 (overall reaction); (1a) S-adenosyl-L-methionine + uroporphyrinogen III = S-adenosyl-L-homocysteine + precorrin-1; (1b) S-adenosyl-L-methionine + precorrin-1 = S-adenosyl-L-homocysteine + precorrin-2
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 ℃.