

adenosylcobinamide kinase

Cat. No. EXWM-2985

Lot. No. (See product label)

Introduction

Description

In *Salmonella typhimurium* LT2, under anaerobic conditions, CobU (EC 2.7.7.62 and EC 2.7.1.156), CobT (EC 2.4.2.21), CobC (EC 3.1.3.73) and CobS (EC 2.7.8.26) catalyse reactions in the nucleotide loop assembly pathway, which convert adenosylcobinamide (AdoCbi) into adenosylcobalamin (AdoCbl). CobT and CobC are involved in 5,6-dimethylbenzimidazole activation whereby 5,6-dimethylbenzimidazole is converted to its riboside, α -ribazole. The second branch of the nucleotide loop assembly pathway is the cobinamide (Cbi) activation branch where AdoCbi or adenosylcobinamide-phosphate is converted to the activated intermediate AdoCbi-GDP by Cob U. The final step in adenosylcobalamin biosynthesis is the condensation of AdoCbi-GDP with α -ribazole, which is catalysed by EC 2.7.8.26, adenosylcobinamide-GDP ribazoletransferase (CobS), to yield adenosylcobalamin. CobU is a bifunctional enzyme that has both kinase (EC 2.7.1.156) and guanylyltransferase (EC 2.7.7.62, adenosylcobinamide-phosphate guanylyltransferase) activities. However, both activities are not required at all times. The kinase activity has been proposed to function only when *S. typhimurium* is assimilating cobinamide whereas the guanylyltransferase activity is required for both assimilation of exogenous cobinamide and for de novo synthesis of adenosylcobalamin.

Synonyms

CobU; adenosylcobinamide kinase/adenosylcobinamide-phosphate guanylyltransferase; AdoCbi kinase/AdoCbi-phosphate guanylyltransferase

Product Information

Form

Liquid or lyophilized powder

EC Number

EC 2.7.1.156

CAS No.

169592-51-2

Reaction

RTP + adenosylcobinamide = adenosylcobinamide phosphate + RDP [where RTP is either ATP or GTP (for symbol definitions, [click here](#))]

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.