
Product Data Sheet

Product Name: Methylmalonyl Coenzyme A

Cat. No.: GC19429

Chemical Properties

Cas. No. 1264-45-5

Chemical Name coenzyme A, S-(hydrogen 2-methylpropanedioate)

SMILES O[C@H]1[C@H](N2C=NC3=C2N=CN=C3N)O[C@H](COP(OP(OCC(C)(C)[C@@H](O)C(NCCC(NCCSC(C(C(O)=O)C)=O)=O)(O)=O)(O)=O)[C@H]1OP(O)(O)=O

Formula C₂₅H₄₀N₇O₁₉P₃S M.Wt 867.6

Solubility Soluble in DMSO Storage Soluble in DMSO

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure **Background**

Methylmalonyl coenzyme A (methylmalonyl-CoA) is an intermediate in multiple metabolic pathways in bacteria and eukaryotes.^{1,2,3} It is an intermediate in carbon assimilation in certain bacteria and carbon fixation in plants.^{1,2} Methylmalonyl-CoA is converted to succinyl-CoA by methylmalonyl-CoA mutase with vitamin B12 as a coenzyme.³ A deficiency in vitamin B12 leads to a build-up of methylmalonyl-CoA.⁴

Reference

1. Anthony, C. How half a century of research was required to understand bacterial growth on C1 and C2 compounds; the story of the serine cycle and the ethylmalonyl-CoA pathway Sci. Prog. 94(Pt 2), 109-137 (2011).

2. Tabita, F.R. The hydroxypropionate pathway of CO₂ fixation: Fait accompli Proc. Natl.

Caution: Product has not been fully validated for medical applications. For research use only.

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Acad. Sci. U.S.A. 106(50), 21015-21016 (2009).

3. Medicine, I.o. Vitamin B12 Dietary reference intakes for thiamin, riboflavin, niacin, vitamin B6, folate, vitamin B12, pantothenic acid, biotin, and choline 306-356 (1998).

4. Cardinale, G.J., Carty, T.J., and Abeles, R.H. Effect of methylmalonyl coenzyme A, a metabolite which accumulates in vitamin B12 deficiency, on fatty acid synthesis J. Biol. Chem. 245(15), 3771-3775 (1970).

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