PRODUCT INFORMATION



Methylmalonyl-Coenzyme A (sodium salt)

Item No. 23551

Formal Name:	S-(hydrogen	
	2-methylpropanedioate)	
	coenzyme A, sodium salt	
Synonym:	Methylmalonyl-CoA	
MF:	C ₂₅ H ₄₀ N ₇ O ₁₉ P ₃ S ● XNa	
FW:	867.6	
Purity:	≥90%	
UV/Vis.:	λ _{max} : 259 nm	OH · XNa
Supplied as:	A crystalline solid	HO
Storage:	-20°C	
Stability:	≥4 years	

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Methylmalonyl-coenzyme A (sodium salt) (methylmalonyl-CoA) is supplied as a crystalline solid. Aqueous solutions of methylmalonyl-CoA (sodium salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of methylmalonyl-CoA (sodium salt) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Methylmalonyl-CoA is an intermediate in multiple metabolic pathways in bacteria and eukaryotes.¹⁻³ It is an intermediate in carbon assimilation in certain bacteria and carbon fixation in plants.^{1,2} Methylmalonyl-CoA is converted to succinyl-CoA (Item No. 23297) by methylmalonyl-CoA (sodium salt) mutase with vitamin B_{12} (Item No. 18425) as a coenzyme.³ A deficiency in vitamin B_{12} leads to a build-up of methylmalonyl-CoA.⁴

References

- 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. Acad. Sci. U.S.A. 106(50), 21015-21016 (2009).
- 3. Institute of Medicine. Vitamin B₁₂, In Dietary reference intakes for thiamin, riboflavin, niacin, vitamin B₆, folate, vitamin B₁₂, pantothenic acid, biotin, and choline. 306-356, Chapter 9, Washington DC, US: The National Academies Press (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).

WARNING THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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1180 EAST ELLSWORTH RD ANN ARBOR, MI 48108 · USA PHONE: [800] 364-9897 [734] 971-3335 FAX: [734] 971-3640 CUSTSERV@CAYMANCHEM.COM WWW.CAYMANCHEM.COM