

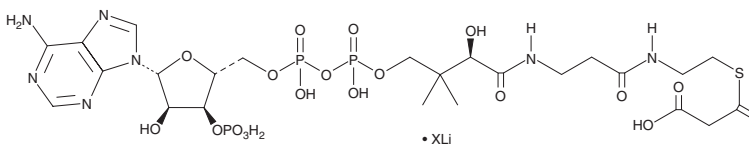
PRODUCT INFORMATION



Malonyl Coenzyme A (lithium salt)

Item No. 16455

CAS Registry No.: 108347-84-8
Formal Name: S-(hydrogen propanedioate) coenzyme A, lithium salt
Synonym: Malonyl-CoA
MF: C₂₄H₃₈N₇O₁₉P₃S • XLi
FW: 860.5
Purity: ≥90%
UV/Vis.: λ_{max}: 257 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Malonyl coenzyme A (lithium salt) is supplied as a crystalline solid. Aqueous solutions of malonyl coenzyme A (lithium salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of malonyl coenzyme A (lithium 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

Malonyl coenzyme A is a coenzyme A (CoA; Item No. 16147) derivative that is used in fatty acid and polyketide synthesis and in the transport of α-ketoglutarate across the mitochondrial membrane.^{1,2} Malonyl-CoA is formed by acetyl-CoA carboxylase-mediated carboxylation of acetyl-CoA (Item No. 16160).¹ Fatty acid synthase catalyzes the NADPH-dependent condensation of malonyl-CoA and acetyl-CoA to produce palmitate. Proliferating human cancer cells upregulate this fatty acid synthesis pathway as a strategy for survival. High levels of malonyl-CoA, achieved through fatty acid synthase inhibition, have been proposed to contribute to cancer cell apoptosis.³ Malonyl-CoA is exclusively used as the extender unit in the synthesis of bacterial aromatic polyketides.^{2,4}

References

1. Hiltunen, J.K., Autio, K.J., Schonauer, M.S., *et al.* Mitochondrial fatty acid synthesis and respiration. *Biochim. Biophys. Acta.* **1797(6-7)**, 1195-1202 (2010).
2. Summers, R.G., Ali, A., Shen, B., *et al.* Malonyl-coenzyme A: Acyl carrier protein acyltransferase of *Streptomyces glaucescens*: A possible link between fatty acid and polyketide biosynthesis. *Biochem.* **34(29)**, 9389-9402 (1995).
3. Pizer, E.S., Thupari, J., Han, W.F., *et al.* Malonyl-coenzyme-A is a potential mediator of cytotoxicity induced by fatty-acid synthase inhibition in human breast cancer cells and xenografts. *Cancer Res.* **60**, 213-218 (2000).
4. Zhan, J. Biosynthesis of bacterial aromatic polyketides. *Curr. Top. Med. Chem.* **9(17)**, 1598-1610 (2009).

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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