

## Product Data Sheet

Product Name: Ethylmalonyl-CoA pentalithium

Cat. No.: GC81833

### Chemical Properties

Cas. No.

Formula  $C_{26}H_{37}Li_5N_7O_{19}P_3S$  M.Wt 911.3

Solubility  $H_2O$ : 100 mg/mL (109.73 mM; Need ultrasonic) Storage Store at  $-20^{\circ}C$ , protect from light

General tips For obtaining a higher solubility, please warm the tube at  $37^{\circ}C$  and shake it in the ultrasonic bath for a while. Stock solution can be stored below  $-20^{\circ}C$  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

Ethylmalonyl-CoA pentalithium (Ethylmalonyl coenzyme A pentalithium) is a metabolic intermediate and biosynthetic precursor associated with crotonyl-CoA carboxylase/reductase. Ethylmalonyl-CoA pentalithium is generated via the reductive carboxylation of crotonyl-CoA catalyzed by crotonyl-CoA

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

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carboxylase/reductase ( CCR ); it can be recognized by the PKS acyltransferase AT and participate in the biosynthesis of antibiotic polyketide natural products. Ethylmalonyl-CoA pentalithium is used in biosynthesis-related research [1] [2].

In Vitro, Ethylmalonyl-CoA pentalithium can be produced via the reductive carboxylation of acetyl-CoA-derived intermediates in cell extracts of Rhodobacter sphaeroides cultured with acetate as the aerobic substrate; it can also be catalyzed to undergo reverse decomposition by purified recombinant Rhodobacter sphaeroides crotonyl-CoA carboxylase/reductase<sup>[1][2]</sup>. Ethylmalonyl-CoA pentalithium serves as a key precursor for the biosynthesis of polyketide natural products including monensin A, sanglifehrin A, davilactone, and bacillomycin [2].

### References:

- [1]. Erb TJ, et al. Synthesis of C5-dicarboxylic acids from C2-units involving crotonyl-CoA carboxylase/reductase: the ethylmalonyl-CoA pathway. Proceedings of the National Academy of Sciences of the United States of America. 2007 Jun 19;104(25):10631-6.
- [2]. Wilson MC, et al. Beyond ethylmalonyl-CoA: the functional role of crotonyl-CoA carboxylase/reductase homologs in expanding polyketide diversity. Natural product reports. 2012 Jan;29(1):72-86.

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