Product Information

Acetyl coenzyme A lithium salt

≥93% (HPLC)

A2181

Product Description

CAS Registry Number: 32140-51-5 ('x' lithium salt); 75520-41-1 (trilithium salt)

Molecular Formula: $C_{23}H_{38}N_7O_{17}P_3S$ (free acid); $C_{23}H_{35}N_7O_{17}P_3SLi_3$ (trilithium salt)

Formula Weight: 809.57 (free acid basis); 827.37 (trilithium salt basis)

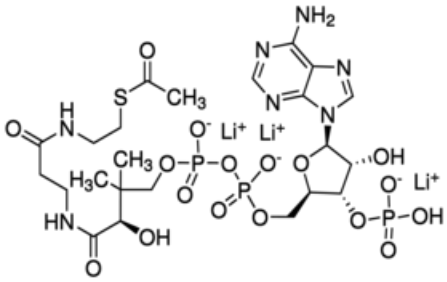
Synonyms: Acetyl CoA Lithium; Acetyl-S-CoA Lithium

E^M (260 nm) = 16,400 (water)[1]

E^M (259 nm) = 15,400 (0.1 M phosphate buffer, pH 7)

E^M (232 nm) = 8,700 (water)[1]

Structure:



Coenzymes comprise a class of molecules, generally derived from vitamins, which function catalytically in enzyme systems.[2] The acetic acid moiety, which is bound by a high-energy bond (free energy 34.3 kJ/mol) to the -SH group of Coenzyme A, is a precursor to fatty acids, steroids and other naturally occurring compounds, such as terpenes and acetogenins present in plants.[3,4] In the transfer reaction by Acetyl CoA of the C2 acetyl fragment, either the carboxyl group or the methyl group may react (electrophilic vs. nucleophilic reaction, respectively). The biosynthetic pathways for Acetyl CoA have been illustrated.[3]

Several methods of preparation and methods for the determination of Acetyl CoA and other CoA derivatives have been described in the literature.[5-7] Several theses[8] and dissertations[9-17] have cited use of A2181 in their research protocols.

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

It is suggested to store this product at –20 °C, under desiccator conditions, as this product is moisture-sensitive.

Solubility

This product is soluble in water at 100 mg/mL.

Acetyl CoA is generally stable in neutral and moderately acidic solutions.[1] Acetyl CoA hydrolyzes in strong acid, and hydrolyzes more rapidly in alkaline solutions. Although we have not tested long-term storage of acetyl CoA solutions, aqueous solutions of sodium acetyl CofA have been reported to be stable for at least 6 months at –20 °C, with a suggestion to store at –70 °C "if possible".[18]

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