

Product Data Sheet

Product Name: Decanoyl Coenzyme A

Cat. No.: GC45751

Chemical Properties

Cas. No. 1264-57-9

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

Formula C₃₁H₅₄N₇O₁₇P₃S

M.Wt 921.8

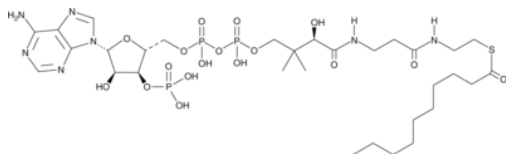
Solubility Water: 20 mg/ml

Storage Store at -20°C

General For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the tips 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

Decanoyl coenzyme A (CoA) is a thioester of decanoic acid and CoA. It inhibits the activity of citrate synthase (CS) and glutamate dehydrogenase (GDH) in mitochondria isolated from rat brain (IC₅₀s = 437 and 420 μM, respectively).² Decanoyl CoA also binds the fatty acid metabolism regulator protein (FadR) promoter in *E. coli* (K_i = 2 μM).³ It is produced during isomerase-dependent β-oxidation of oleic acid in isolated rat heart mitochondria.⁴

[1. Gregersen, N., K-lvraa, S., and Mortensen, P.B. Acyl-CoA: Glycine N-acyltransferase: In vitro studies on the glycine conjugation of straight- and branched-chained acyl-CoA esters in human liver. *Biochem. Med. Metab. Biol.* 35(2), 210-218 (1986).]2. Lai, J.C., Lian, B.B., Zhai, S., et al. Brain mitochondrial citrate synthase and glutamate dehydrogenase: Differential inhibition by fatty acyl coenzyme A derivatives. *Metab. Brain Dis.* 9(2), 143-152 (1994).]3. DiRusso, C.C., Heimert, T.L., and Metzger, A.K. Characterization of FadR, a global transcriptional regulator of fatty acid metabolism in *Escherichia coli*. Interaction with the fadB promoter is prevented by long chain fatty

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

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acyl coenzyme A. J. Biol. Chem. 267(12), 8685-8691 (1992).|4. Ren, Y., and Schulz, H. Metabolic functions of the two pathways of oleate β -oxidation double bond metabolism during the β -oxidation of oleic acid in rat heart mitochondria. J. Biol. Chem. 278(1), 111-116 (2003).

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