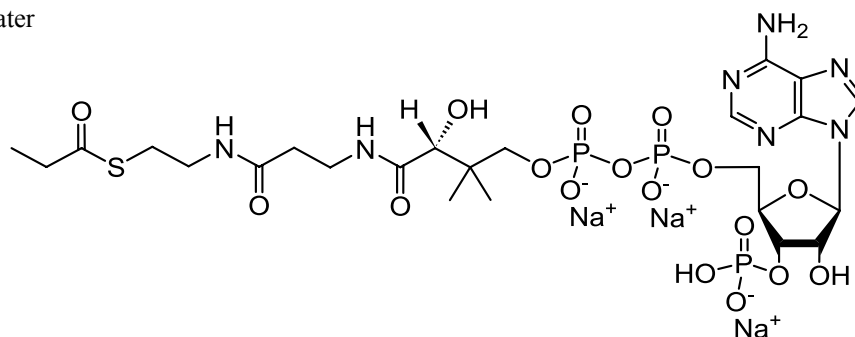


TECHNICAL DATA SHEET

Propionoyl Coenzyme A (sodium salt)

Catalog Number	870703	Physical state	Powder
Purity	> 99%	Transition temp.	No data
CAS	852043-42-6	CMC	No data
Synonyms	3:0 Coenzyme A; C3 CoA	pK _a	No data
Molec. Formula	C ₂₄ H ₃₇ N ₇ Na ₃ O ₁₇ P ₃ S	TLC mobile phase	C:M:W*, 10:10:3, v/v Dissolve in: C:M:W*, 80:20:2, v/v
MW	889.087	Exact Mass	889.543
Percent composition	C 32.41% H 4.19% N 11.02% Na 7.75% O 30.58% P 10.45% S 3.60%		
Stability	Store in <-20°C freezer for one year as a powder		
Solubility	Soluble in water; methanol:water; C:M:W*, 80:20:2 to 65:25:4, v/v		
Web link	870703		

* chloroform:methanol:water



Description: Many fatty acids are activated to the acyl CoA's, critical for metabolism (Hamilton, 2007). Acyl coenzyme A's are the precursors of sphingolipids, the predominant stored fatty acids. Fatty acyl-coenzyme A's play a role in most fatty acid modification reactions (Leonhardt and Langerhans, 2004; Haynes *et al*, 2008), are a part of nuclear signaling (Schroeder *et al*, 2008), are involved in post-translational protein modification and in gene regulation (Haynes *et al*, 2008; Schroeder *et al*, 2008). Because of these diverse functions, fatty acyl CoA's have been implicated in obesity (Leonhardt and Langerhans, 2004; Schroeder *et al*, 2008), cardiovascular disease, diabetes mellitus, cancer (Schroeder *et al*, 2008) and Reye's syndrome (Kasuya *et al*, 2004). Short chain fatty acyl CoA's have recently been shown as products in bacterial reactions for potential biofuel (Henstra *et al*, 2007).

Product use: A stock solution may be prepared by dissolving the fatty acyl CoA in distilled/deionized water or buffer that has been sparged with nitrogen to remove oxygen (heat and/or sonication may be necessary to dissolve short chain fatty acyl CoA's). Fatty acyl CoA's are soluble in water to $\leq 50\text{mg/mL}$. The aqueous solution should be stored at 2-8°C and used within 1 day. Fatty acyl CoA's are not stable in aqueous solution and will degrade rapidly when stored in water. For long term storage, Avanti recommends that fatty acyl CoA's be stored as a powder at -20°C. The product should be stable in this form for at least 1 year.

References:

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- Schroeder F *et al* (2008) Role of fatty acid binding proteins and long chain fatty acids in modulating nuclear receptors and gene transcription. *Lipids*. 43(1):1-17
- Hamilton JA (2007) New insights into the roles of proteins and lipids in membrane transport of fatty acids. *Prostaglandin Leukot Essent Fatty Acids*. 77(5-6):355-61
- Henstra AM *et al* (2007) Microbiology of synthesis gas fermentation for biofuel production. *Curr Opin Biotechnol*: 18(3):200-6
- Kasuya F, *et al* (2004) Analysis of medium-chain acyl-coenzyme A esters in mouse tissues by liquid chromatography-electrospray ionization mass spectrometry. *Anal Biochem*: 325(2):196-205
- Leonhardt M, Langerhans W (2004) Fatty acid oxidation and control of food intake. *Physiol Behav*. 83(4):645-51

Related products: [AcylCoenzymeA](#)
[Sphingolipids](#)
[LIPID MAPS Mass spectrometry lipid standards](#)

MSDS: Available on Avanti's website for product number 870703

Avanti Polar Lipids, Inc., 700 Industrial Park Drive, Alabaster, AL 35007-9105, U.S.A.
 Phone • (800) 227-0651 • (205) 663-2494 • Fax (800) 229-1004 • (205) 663-0756
 Email • orders@avantilipids.com • Technical Questions: technical@avantilipids.com
 • Inquiries: info@avantilipids.com • Analytical: analytical@avantilipids.com

