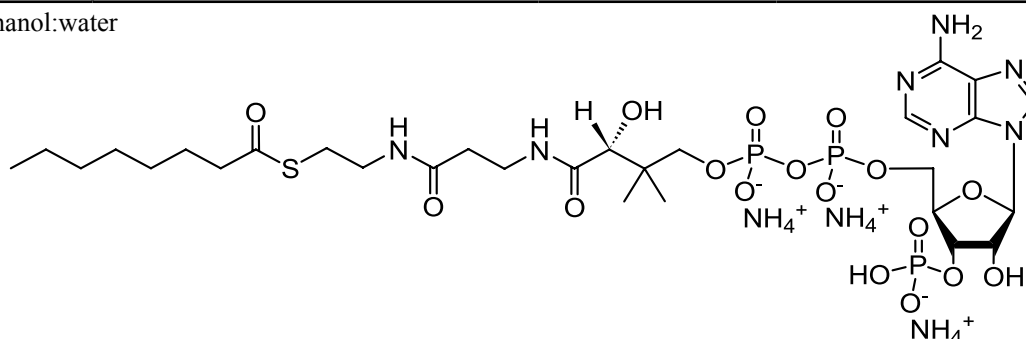


# TECHNICAL DATA SHEET

## Octanoyl Coenzyme A (ammonium salt)

|                            |  |                         |   |
|----------------------------|--|-------------------------|---|
| <b>Catalog Number</b>      | 870708   | <b>Physical state</b>   | Powder  |
| <b>Purity</b>              | > 99%  | <b>Transition temp.</b> | No data   |
| <b>CAS</b>                 | 799812-82-1  | <b>CMC</b>              | No data   |
| <b>Synonyms</b>            | 8:0 Coenzyme A; C8 CoA   | <b>pK<sub>a</sub></b>   | No data   |
| <b>Molec. Formula</b>      | C <sub>29</sub> H <sub>59</sub> N <sub>10</sub> O <sub>17</sub> P <sub>3</sub> S | <b>TLC mobile phase</b> | C:M:W*, 10:10:3, v/v<br>Dissolve in: C:M:W*, 80:20:2, v/v |
| <b>MW</b>                  | 944.299  | <b>Exact Mass</b>       | 944.822   |
| <b>Percent composition</b> | C 36.87% H 6.29% N 14.82% O 28.79% P 9.83% S 3.39%                               |                         |   |
| <b>Stability</b>           | Store in <-20°C freezer for one year as a powder                                 |                         |   |
| <b>Solubility</b>          | Soluble in water, methanol:water, C:M:W* 80:20:2 to 65:25:4, v/v                 |                         |   |
| <b>Web link</b>            | <a href="#">870708</a>   |                         |   |

\* 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). In the cell, where the oxidation reaction occurs may be different for medium chain fatty acids which oxidize faster than long chain fatty acids and may have implications for obesity (Leonhardt and Langhans, 2004).

**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 medium 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:

- 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
- Haynes, CA *et al*. (2008) Quantitation of fatty acyl-coenzyme As in mammalian cells by liquid chromatography-electrospray ionization tandem mass spectrometry. *J Lipid Res* 49: 1113-1125
- 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
- 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, Langhans 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 870708

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