

PRODUCT INFORMATION



Coenzyme A (free acid)

Item No. 46264

CAS Registry No.: 85-61-0

Synonym: CoA

MF: $C_{21}H_{36}N_7O_{16}P_3S$

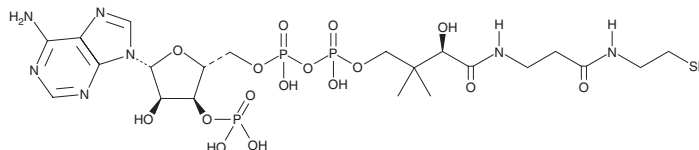
FW: 767.5

Purity: $\geq 90\%$

Supplied as: A solid

Storage: -20°C

Stability: ≥ 2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Coenzyme A (free acid) is supplied as a solid. A stock solution may be made by dissolving the coenzyme A (free acid) in the solvent of choice, which should be purged with an inert gas. Coenzyme A (free acid) is slightly soluble (0.1-1 mg/ml) in dimethyl formamide.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of coenzyme A (free acid) can be prepared by directly dissolving the solid in aqueous buffers. Coenzyme A (free acid) is soluble (≥ 10 mg/ml) in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

Description

Coenzyme A (CoA) is an essential cofactor functioning as an acyl group carrier and carbonyl-activating group for the citric acid cycle and fatty acid metabolism.¹ About 4% of cellular enzymes utilize CoA as a substrate. It is synthesized from pantothenic acid (Item No. 17288) in a five-step process that requires ATP.² The pantothenate kinase step of the CoA biosynthetic pathway has been identified as a target for the development of antibacterial compounds.³

References

- Leonardi, R., Zhang, Y.M., Rock, C.O., *et al.* Coenzyme A: Back in action. *Prog. Lipid Res.* **44**(2-3), 125-153 (2005).
- Jackowski, S. Biosynthesis of pantothenic acid and coenzyme A. *Escherichia coli and Salmonella typhimurium: Cellular and molecular biology*. Neidhardt, F. C., Curtiss, R., Gross, C. A., *et al.*, editors, 2nd edition, American Society for Microbiology (1996).
- Begley, T.P., Kinsland, C., and Strauss, E. The biosynthesis of coenzyme A in bacteria. *Vitam. Horm.* **61**, 157-171 (2001).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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