

PRODUCT INFORMATION



Acetoacetyl-Coenzyme A (sodium salt hydrate)

Item No. 21219

Formal Name: S-(3-oxobutanoate) coenzyme A, trisodium salt, tetrahydrate

Synonym: Acetoacetyl-CoA

MF: $C_{25}H_{37}N_7O_{18}P_3S \cdot 3Na [4H_2O]$

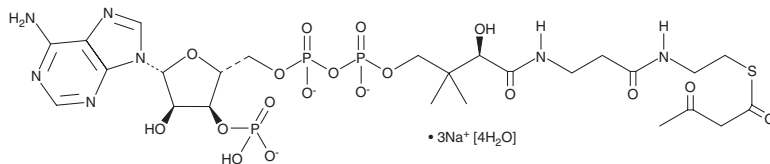
FW: 989.6

UV/Vis.: λ_{max} : 257 nm

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

Acetoacetyl-coenzyme A (acetoacetyl-CoA) is supplied as a solid. Aqueous solutions of acetoacetyl-CoA can be prepared by directly dissolving the solid in aqueous buffers. The solubility of acetoacetyl-CoA in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Acetoacetyl-CoA is a precursor to HMG-CoA in the isoprenoid pathway.^{1,2} It is reversibly converted to acetyl-CoA by acetoacetyl-CoA thiolase in the mitochondria. Acetoacetyl-CoA thiolase (T2) deficiency results in a build-up of ketone bodies leading to intermittent ketoacidosis.^{3,4} Acetoacetyl-CoA is also an intermediate in the microbial biosynthesis of polyhydroxybutyrate.⁵

References

1. Lynen, F., and Ochoa, S. Enzymes of fatty acid metabolism. *Biochem. Biophys. Acta.* **12(1-2)**, 299-314 (1953).
2. Miziorko, H.M. Enzymes of the mevalonate pathway of isoprenoid biosynthesis. *Arch. Biochem. Biophys.* **505(2)**, 131-143 (2011).
3. Daum, R.S., Scriver, C.R., Mamer, O.A., et al. An inherited disorder of isoleucine catabolism causing accumulation of α -methylacetoacetate and α -methyl- β -hydroxybutyrate, and intermittent metabolic acidosis. *Pediatr. Res.* **7(3)**, 149-160 (1973).
4. Fukao, T., Scriver, C.R., and Kondo, N. The clinical phenotype and outcome of mitochondrial acetoacetyl-CoA thiolase deficiency (β -ketothiolase or T2 deficiency) in 26 enzymatically proved and mutation-defined patients. *Mol. Genet. Metab.* **72(2)**, 109-114 (2001).
5. Jacquet, N., Lo, C.-W., Wei, Y.-H., et al. Isolation and purification of bacterial poly(3-hydroxyalkanoates) *Biochem. Eng. J.* **39(1)**, 15-27 (2008).

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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