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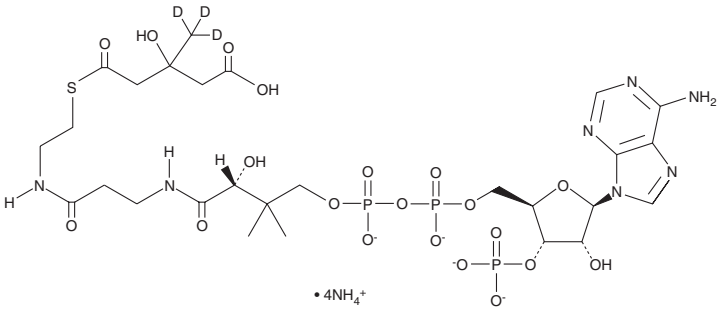
PRODUCT INFORMATION

3-hydroxy-3-methylglutaryl-Coenzyme A-d_3 (ammonium salt)

Item No. 9000368

Formal Name:	S-(hydrogen 3-hydroxy-3-methyl-d_3-pentanedioate)-coenzyme A, tetraammonium salt
Synonyms:	DL-3-hydroxy-3-methylglutaryl-CoA-d_3, HMG-CoA-d_3, Hydroxymethylglutaryl-CoA-d_3
MF:	$C_{27}H_{37}D_3N_7O_{20}P_3S \bullet 4NH_4$
FW:	982.8
Chemical Purity:	≥90% (3-hydroxy-3-methylglutaryl-Coenzyme A)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_3); ≤1% d_0
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥1 year



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

Laboratory Procedures

3-hydroxy-3-methylglutaryl-Coenzyme A-d_3 (HMG-CoA) (ammonium salt) is intended for use as an internal standard for the quantification of 3-hydroxy-3-methylglutaryl-coenzyme A (Item No. 25394) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

HMG-CoA-d_3 (ammonium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the HMG-CoA-d_3 (ammonium salt) in water. The solubility of HMG-CoA-d_3 (ammonium salt) in water is approximately 50 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

HMG-CoA is an intermediate in several metabolic pathways.[1-4] Conversion of HMG-CoA to mevalonate by HMG-CoA reductase is the rate-limiting first step in the cholesterol biosynthetic pathway.[2,3] Alternatively, HMG-CoA can be cleaved into acetyl-CoA and the ketone body acetoacetate in mitochondria by HMG-CoA lyase.[1,4] HMG-CoA is also an intermediate in the degradation of leucine.[4]

References

1. Laffel, L. Ketone bodies: A review of physiology, pathophysiology and application of monitoring to diabetes. *Diabetes Metab. Res. Rev.* **15(6)**, 412-426 (1999).
2. Espenshade, P.J., and Hughes, A.L. Regulation of sterol synthesis in eukaryotes. *Annu. Rev. Genet.* **41**, 401-427 (2007).
3. Honda, A., Salen, G., Nguyen, L.B., *et al.* Regulation of early cholesterol biosynthesis in rat liver: Effects of sterols, bile acids, lovastatin, and BM 15.766 on 3-hydroxy-3-methylglutaryl coenzyme A synthase and acetoacetyl coenzyme A thiolase activities. *Hepatology* **27(1)**, 154-159 (1998).
4. Berg, J.M., Tymoczko, J.L., and Stryer, L. Section 25.5 NAD^+, FAD, and coenzyme A are formed from ATP. *Biochemistry* **5th Edition**, (2002).

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