

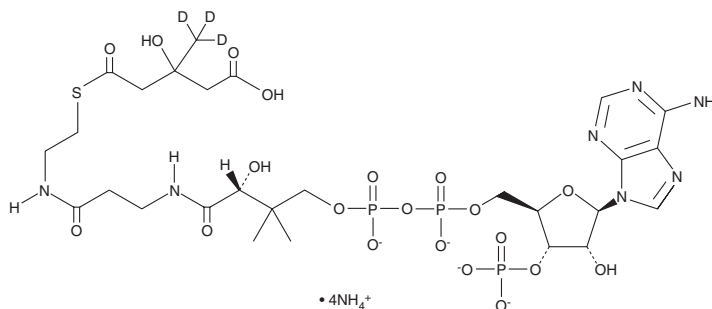
# PRODUCT INFORMATION



## 3-hydroxy-3-methylglutaryl-Coenzyme A-d<sub>3</sub> (ammonium salt)

Item No. 9000368

<b>Formal Name:</b>	S-(hydrogen 3-hydroxy-3-methyl-d <sub>3</sub> -pentanedioate)-coenzyme A, tetraammonium salt
<b>Synonyms:</b>	DL-3-hydroxy-3-methylglutaryl-CoA-d <sub>3</sub> , HMG-CoA-d <sub>3</sub> , Hydroxymethylglutaryl-CoA-d <sub>3</sub>
<b>MF:</b>	C <sub>27</sub> H <sub>37</sub> D <sub>3</sub> N <sub>7</sub> O <sub>20</sub> P <sub>3</sub> S • 4NH <sub>4</sub>
<b>FW:</b>	982.8
<b>Chemical Purity:</b>	≥90% (3-hydroxy-3-methylglutaryl-Coenzyme A)
<b>Deuterium Incorporation:</b>	≥99% deuterated forms (d <sub>1</sub> -d <sub>3</sub> ); ≤1% d <sub>0</sub>
<b>Supplied as:</b>	A crystalline solid
<b>Storage:</b>	-20°C
<b>Stability:</b>	≥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<sub>3</sub> (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<sub>3</sub> (ammonium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the HMG-CoA-d<sub>3</sub> (ammonium salt) in water. The solubility of HMG-CoA-d<sub>3</sub> (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.<sup>1-4</sup> Conversion of HMG-CoA to mevalonate by HMG-CoA reductase is the rate-limiting first step in the cholesterol biosynthetic pathway.<sup>2,3</sup> Alternatively, HMG-CoA can be cleaved into acetyl-CoA and the ketone body acetoacetate in mitochondria by HMG-CoA lyase.<sup>1,4</sup> HMG-CoA is also an intermediate in the degradation of leucine.<sup>4</sup>

### 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<sup>+</sup>, FAD, and coenzyme A are formed from ATP. *Biochemistry* 5<sup>th</sup> Edition, (2002).

#### 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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