

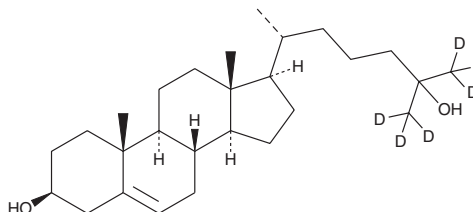
# PRODUCT INFORMATION



## 25-hydroxy Cholesterol-d<sub>6</sub>

Item No. 11099

**CAS Registry No.:** 88247-69-2  
**Formal Name:** cholest-5-ene-26,26,26,27,27,27-d<sub>6</sub>-3β,25-diol  
**MF:** C<sub>27</sub>H<sub>40</sub>D<sub>6</sub>O<sub>2</sub>  
**FW:** 408.7  
**Chemical Purity:** ≥98% 25-hydroxy Cholesterol  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>6</sub>); ≤1% d<sub>0</sub>  
**Supplied as:** A crystalline 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

25-hydroxy Cholesterol-d<sub>6</sub> contains six deuterium atoms at the 26, 26, 26, 27, 27, and 27 positions. It is intended for use as an internal standard for the quantification of 25-hydroxy cholesterol by GC- or LC-mass spectrometry (MS).

25-hydroxy Cholesterol-d<sub>6</sub> is supplied as a crystalline solid. A stock solution may be made by dissolving the 25-hydroxy cholesterol-d<sub>6</sub> in the solvent of choice. 25-hydroxy Cholesterol-d<sub>6</sub> is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of 25-hydroxy cholesterol-d<sub>6</sub> in ethanol and DMF is approximately 20 and 2 mg/ml, respectively and approximately 100 µg/ml in DMSO.

25-hydroxy Cholesterol-d<sub>6</sub> is used as an internal standard for the quantification of 25-hydroxy cholesterol by stable isotope dilution 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).

### Description

25-hydroxy Cholesterol is a side-chain substituted oxysterol derived from dietary cholesterol that inhibits the cleavage of sterol regulatory element binding proteins (SREBPs) to suppress endogenous cholesterol synthesis in various cell types.<sup>1</sup> It has been implicated in a variety of metabolic events including cholesterol homeostasis and atherosclerosis as well as antitumor activities as it has been shown to induce apoptosis through down-regulation of Bcl-2 expression and activation of caspases.<sup>2</sup> Immunomodulating capabilities have also been observed as the oxysterol can act as a LXR-RXR ligand coupling cholesterol synthesis to T cell proliferation, can reduce (EC<sub>50</sub> ~ 65 nM) IgA production by B cells in response to IL-2, and can suppress differentiation of monocytes into macrophages.<sup>3-5</sup>

### References

1. Adams, C.M., Reitz, J., De Brabander, J.K., *et al.* *J. Biol. Chem.* **279**(50), 52772-52780 (2004).
2. Bischoff, P.L., Holl, V., Coelho, D., *et al.* *Curr. Med. Chem.* **7**, 693-713 (2000).
3. McDonald, J.G. and Russell, D.W. *J. Leukoc. Biol.* **88**(6), 1071-1072 (2010).
4. Bauman, D.R., Bitmansour, A.D., McDonald, J.G., *et al.* *Proc. Natl. Acad. Sci. USA* **106**(39), 16764-16769 (2009).
5. Bensinger, S.J., Bradley, M.N., Joseph, S.B., *et al.* *Cell* **134**, 97-111 (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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