

# PRODUCT INFORMATION



## 5 $\beta$ ,6 $\beta$ -epoxy Cholesterol

Item No. 25603

**CAS Registry No.:** 4025-59-6  
**Formal Name:** 5 $\beta$ ,6 $\beta$ -epoxy-cholestan-3 $\beta$ -ol  
**Synonyms:** Cholesterol  $\beta$ -Epoxide,  
5 $\beta$ ,6 $\beta$ -Epoxycholesterol,  
5 $\beta$ ,6 $\beta$ -Epoxycholestan-3 $\beta$ -ol,  
NSC 148940

**MF:** C<sub>27</sub>H<sub>46</sub>O<sub>2</sub>

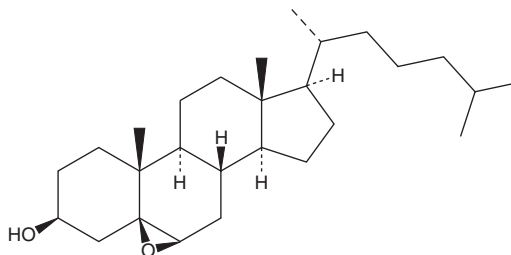
**FW:** 402.7

**Purity:**  $\geq$ 95%

**Supplied as:** A crystalline solid

**Storage:** -20°C

**Stability:**  $\geq$ 4 years



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

### Laboratory Procedures

5 $\beta$ ,6 $\beta$ -epoxy Cholesterol is supplied as a crystalline solid. A stock solution may be made by dissolving the 5 $\beta$ ,6 $\beta$ -epoxy cholesterol in the solvent of choice, which should be purged with an inert gas. 5 $\beta$ ,6 $\beta$ -epoxy Cholesterol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 5 $\beta$ ,6 $\beta$ -epoxy cholesterol in these solvents is approximately 20, 0.1, and 2 mg/ml, respectively.

5 $\beta$ ,6 $\beta$ -epoxy Cholesterol is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 5 $\beta$ ,6 $\beta$ -epoxy cholesterol should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. 5 $\beta$ ,6 $\beta$ -epoxy Cholesterol has a solubility of approximately 0.3 mg/ml in a 1:2 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

5 $\beta$ ,6 $\beta$ -epoxy Cholesterol is an oxidative metabolite of cholesterol that is formed *via* radical and non-radical oxidation of cholesterol at the 5,6-double bond.<sup>1,2</sup> It induces release of lactate dehydrogenase (LDH) and apoptosis in macrophage-differentiated U937 cells.<sup>3</sup> 5 $\beta$ ,6 $\beta$ -epoxy Cholesterol has been found in human fatty streaks and advanced atherosclerotic lesions but is not present in normal aortic tissue.<sup>4</sup>

### References

1. Pulfer, M.K. and Murphy, R.C. Formation of biologically active oxysterols during ozonolysis of cholesterol present in lung surfactant. *J. Biol. Chem.* **279**(25), 26331-26338 (2004).
2. Aringer, L. and Eneroth, P. Formation and metabolism *in vitro* of 5,6-epoxides of cholesterol and  $\beta$ -sitosterol. *J. Lipid Res.* **15**(4), 389-398 (1974).
3. Lordan, S., O'Brien, N.M., and Mackrill, J.J. The role of calcium in apoptosis induced by 7 $\beta$ -hydroxycholesterol and cholesterol-5 $\beta$ ,6 $\beta$ -epoxide. *J. Biochem. Mol. Toxicol.* **23**(5), 324-332 (2009).
4. Garcia-Cruset, S., Carpenter, K.L., Guardiola, F., *et al.* Oxysterol profiles of normal human arteries, fatty streaks and advanced lesions. *Free Radic. Res.* **35**(1), 31-41 (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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