

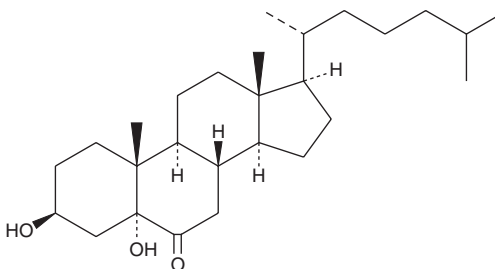
# PRODUCT INFORMATION



## 5 $\alpha$ -hydroxy-6-keto Cholesterol

Item No. 10007601

**CAS Registry No.:** 13027-33-3  
**Formal Name:** 3 $\beta$ ,5 $\alpha$ -dihydroxy-cholestan-6-one  
**Synonyms:** 6-Oxo-3,5-diol,  
Cholestane-6-oxo-3 $\beta$ ,5 $\alpha$ -diol,  
OCDO, Oncosterone  
**MF:** C<sub>27</sub>H<sub>46</sub>O<sub>3</sub>  
**FW:** 418.7  
**Purity:**  $\geq$ 98%  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:**  $\geq$ 2 years



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

### Laboratory Procedures

5 $\alpha$ -hydroxy-6-keto Cholesterol is supplied as a crystalline solid. A stock solution may be made by dissolving the 5 $\alpha$ -hydroxy-6-keto cholesterol in the solvent of choice, which should be purged with an inert gas. 5 $\alpha$ -hydroxy-6-keto Cholesterol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 5 $\alpha$ -hydroxy-6-keto cholesterol in these solvents is approximately 5, 0.5, and 20 mg/ml, respectively.

### Description

5 $\alpha$ -hydroxy-6-keto Cholesterol (OCDO) is an oxysterol and active metabolite of cholesterol-5,6-epoxides.<sup>1</sup> Cholesterol-5,6-epoxides are hydrolyzed by cholesterol epoxide hydrolase (ChEH) into cholestane-3 $\beta$ ,5 $\alpha$ ,6 $\beta$ -triol, which is then dehydrogenated by 11 $\beta$ -hydroxysteroid dehydrogenase 2 (11 $\beta$ -HSD2) into OCDO. OCDO inhibits cholesterol synthesis in 16HBE cells (IC<sub>50</sub> = 350 nM).<sup>2</sup> It increases the proliferation of MDA-MB-231 and MDA-MB-468 cells when used at concentrations of 2 and 5  $\mu$ M.<sup>3</sup> *In vivo*, OCDO (50  $\mu$ g/kg) increases tumor volume in MCF-7, MDA-MB-231, EO771, and MDA-MB-468 breast cancer mouse xenograft models.

### References

1. Poirot, M., Soules, R., Maillinger, A., *et al.* Chemistry, biochemistry, metabolic fate and mechanism of action of 6- $\alpha$ -cholestan-3 $\beta$ ,5 $\alpha$ -diol (OCDO), a tumor promoter and cholesterol metabolite. *Biochimie* **153**, 139-149 (2018).
2. 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).
3. Voisin, M., de Medina, P., Mallinger, A., *et al.* Identification of a tumor-promoter cholesterol metabolite in human breast cancers acting through the glucocorticoid receptor. *Proc. Natl. Acad. Sci. USA* **114(44)**, E9346-E9355 (2017).

#### 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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