

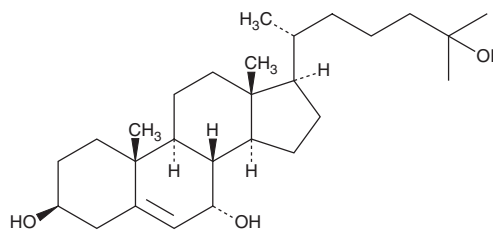
# PRODUCT INFORMATION



## 7 $\alpha$ ,25-dihydroxy Cholesterol

Item No. 11032

**CAS Registry No.:** 64907-22-8  
**Formal Name:** (3 $\beta$ ,7 $\alpha$ )-cholest-5-ene-3,7,25-triol  
**Synonym:** 7 $\alpha$ ,25-DHC  
**MF:** C<sub>27</sub>H<sub>46</sub>O<sub>3</sub>  
**FW:** 418.7  
**Purity:**  $\geq$ 95%  
**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

7 $\alpha$ ,25-dihydroxy Cholesterol (7 $\alpha$ ,25-DHC) is supplied as a crystalline solid. A stock solution may be made by dissolving the 7 $\alpha$ ,25-DHC in the solvent of choice. 7 $\alpha$ ,25-DHC is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of 7 $\alpha$ ,25-DHC in DMSO is approximately 100  $\mu$ g/ml and approximately 2 and 20 mg/ml in ethanol and DMF, respectively.

7 $\alpha$ ,25-DHC is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 7 $\alpha$ ,25-DHC should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. 7 $\alpha$ ,25-DHC has a solubility of approximately 500  $\mu$ g/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

GPR183 (also known as Epstein-Barr virus-induced gene 2) is an orphan G protein-coupled receptor (GPCR) that is highly expressed in spleen and is required for humoral immune responses, including B cell migration and T cell-dependent antibody production.<sup>1,2</sup> 7 $\alpha$ ,25-DHC is a potent agonist of GPR183 that induces specific activation of the receptor with an EC<sub>50</sub> value of 50 nM (K<sub>d</sub> = 450 pM).<sup>1,2</sup> At concentrations below 3  $\mu$ M, it does not show any appreciable binding activity when tested against eight different nuclear hormone receptors including LXR and thirty-one different GPCRs in a panel of reporter gene assays.<sup>2</sup> 7 $\alpha$ ,25-DHC can act as a potent chemokine, affecting migration of immune cells expressing GPR183 both *in vitro* (EC<sub>50</sub> = 500 pM) and *in vivo*.<sup>1,2</sup>

### References

1. Liu, C., Yang, X.V., Wu, J., *et al.* Oxysterols direct B-cell migration through EB12. *Nature* **475(7357)**, 519-523 (2011).
2. Hannedouche, S., Zhang, J., Yi, T., *et al.* Oxysterols direct immune cell migration via EB12. *Nature* **475(7357)**, 524-527 (2011).

#### 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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