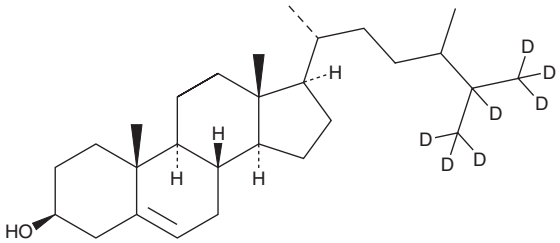
PRODUCT INFORMATION

Campesterol-d_7

Item No. 45690

CAS Registry No.:	2483832-11-5
Formal Name:	(3β,24ξ)-ergost-5-en-25,26,26,26,27,27,27-d_7-3-ol
MF:	$C_{28}H_{41}D_7O$
FW:	407.7
Chemical Purity:	≥98% (Campesterol)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_7); ≤1% d_0
Supplied as:	A 1 mg/ml solution in ethyl acetate
Storage:	-20°C
Stability:	≥4 years



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

Description

Campesterol-d_7 is intended for use as an internal standard for the quantification of campesterol (Item No. 41695) 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).

Campesterol is a phytosterol that has been found in *D. innoxia* and has diverse biological activities.[1-4] It inhibits basic FGF-induced proliferation in, and vessel formation by, human umbilical vein endothelial cells (HUVECs) when used at concentrations of 1, 5, or 10 µM.[2] Campesterol (15 µM) decreases the proliferation of MCF-7 and ZR-75-1 breast cancer cells.[3] It reduces the levels of estrogen receptor α (ERα) in, and the diameter of, patient-derived breast cancer organoids when used at a concentration of 10 µM. Campesterol has been used as a marker of cholesterol intestinal absorption in humans.[4]

References

1. Ramadan, M.F., Zayed, R., and El-Shamy, H. Screening of bioactive lipids and radical scavenging potential of some solanaceae plants. *Food Chem.* **103(3),** 885-890 (2007).
2. Choi, J.M., Lee, E.O., Lee, H.J., *et al.* Identification of campesterol from *Chrysanthemum coronarium* L. and its antiangiogenic activities. *Phytother. Res.* **21(10),** 954-959 (2007).
3. Majumder, R., Banerjee, S., Mandal, M., *et al.* A virtual drug discovery screening illuminates campesterol as a potent estrogen receptor alpha inhibitor in breast cancer. *J. Med. Chem.* **67(12),** 10321-10335 (2024).
4. Wu, A.H., Ruan, W., Todd, J., *et al.* Biological variation of β-sitosterol, campesterol, and lathosterol as cholesterol absorption and synthesis biomarkers. *Clin. Chim. Acta* **430,** 43-47 (2014).

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