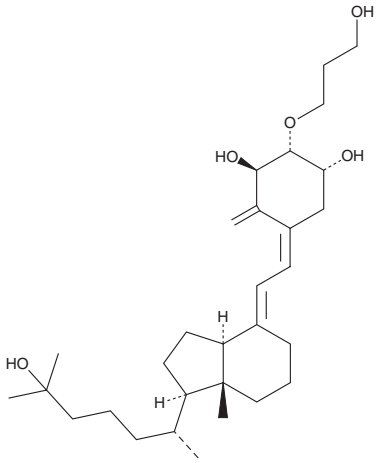
PRODUCT INFORMATION

Eldecalcitol

Item No. 33713



CAS Registry No.:	104121-92-8
Formal Name:	2-(3-hydroxypropoxy)-4-methylene-5-[(2E)-2-[(1R,3aS,7aR)-octahydro-1-[(1R)-5-hydroxy-1,5-dimethylhexyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-1,3-cyclohexanediol
Synonyms:	ED-71, 1α,25-dihydroxy-2β-(3-hydroxypropoxy) Vitamin D_3
MF:	$C_{30}H_{50}O_5$
FW:	490.7
Purity:	≥98%
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years

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

Laboratory Procedures

Eldecalcitol is supplied as a solid. A stock solution may be made by dissolving the eldecalcitol in the solvent of choice, which should be purged with an inert gas. Eldecalcitol is slightly soluble in methanol and acetonitrile.

Eldecalcitol is slightly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

Eldecalcitol is a derivative of the vitamin D_3 receptor agonist and vitamin D_3 active metabolite calcitriol (Item No. 71820).[1,2] It induces calcium release in an *in vitro* bone mobilization assay using isolated mouse calvaria when used at a concentration of 10 nM.[1] Eldecalcitol (50 nM) reduces LPS-induced pyroptosis and increases in hydrogen peroxide and protein levels of the NOD-like receptor protein 3 (NLRP3) inflammasome, caspase-1, and IL-1β in primary human gingival fibroblasts.[3] Eldecalcitol (0.4 nM) induces apoptosis and cell cycle arrest at the G_0/G_1 phase in, and inhibits migration of, SCC-15 and CAL 27 squamous cell carcinoma cells and decreases tumor volume in an SCC-15 mouse xenograft model when administered at a dose of 0.5 µg/kg twice per week.[4] Eldecalcitol (0.3 µg/kg) decreases serum parathyroid hormone (PTH) levels and increases serum calcium levels, bone mineral density, and bone strength in a cynomolgus monkey model of osteoporosis induced by ovariectomy.[2] Formulations containing eldecalcitol have been used in the treatment of osteoporosis.

References

1. Okano, T., Tsugawa, N., Masuda, S., *et al. Biochem. Biophys. Res. Commun.* **163(3)**, 1444-1449 (1989).
2. Smith, S.Y., Doyle, N., Boyer, M., *et al. Bone* **57(1)**, 116-122 (2013).
3. Huang, C., Zhang , C., Yang, P., *et al. Drug Des. Devel. Ther.* **14**, 4901-4913 (2020).
4. Lu, Y., Kou, Y., Gao, Y., *et al. Oral Dis.* **29(2)**, 615-627 (2023).

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