Product Information

1α,25-Dihydroxyvitamin D₃

Catalog Number D1530
Storage Temperature –20 °C

CAS RN 32222-06-3
Synonyms: 1α,25-Dihydroxycholecalciferol, Calcitriol

Product Description
Molecular Formula: C₂₇H₄₄O₃
Formula Weight: 416.64
λ_max: 264 nm
Extinction Coefficient: E₅₄₀M = 19.0

1α,25-Dihydroxyvitamin D₃ is the biologically active form of vitamin D₃ in calcium absorption and deposition. It has widespread effects on cellular differentiation and proliferation, and can modulate immune responsiveness, and central nervous system function. Studies suggest 1α,25-dihydroxyvitamin D₃ acts as a chemopreventive agent against several malignancies including cancers of the prostate and colon and shows synergy with other anticancer compounds.

Metabolism of this product can be studied using either pig kidney cells or rat intestinal cells. All known metabolites of this product can be analyzed using two consecutive normal-phase HPLC systems.

Precautions and Disclaimer
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions
This product is slightly soluble in methanol, ethanol, ethyl acetate, and tetrahydrofuran. It is air and light sensitive. For use in cell culture, this product was diluted into medium from 10 µM stock solutions prepared in ethanol. For chromatographic analysis, this product can be dissolved in a mixture of hexane:isopropanol:acetic acid (v:v:v, 87.4:12.3:0.3) at 0.25 mg/ml.

Storage/Stability
Store the product at –20 °C. This product is reported to be air and light sensitive. Therefore, solutions should be stored under an inert gas at –20 °C in the dark. Stock solutions of 1 mM in 95% ethanol are reported to remain active at –20 °C until needed for use.

References
1. Merck Index, 11th ed. Entry# 1641.
5. Geilen, C.C., et al., \(1\alpha,25\text{-dihydroxyvitamin D3}\) induces sphingomyelin hydrolysis in HaCaT cells via tumor necrosis factor-\(\alpha\). J. Biol. Chem., 272, 8997-9001 (1997).