PRODUCT INFORMATION

Calcitriol
Item No. 71820

CAS Registry No.: 32222-06-3
Formal Name: 9,10-secocholesta-5Z,7E,10(19)-triene-1α,3β,25-triol
Synonym: 1α,25-dihydroxy Vitamin D₃
MF: C₂₇H₄₄O₃
FW: 416.6
Purity: ≥97%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥1 year

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

Laboratory Procedures

Calcitriol is supplied as a crystalline solid. A stock solution may be made by dissolving the calcitriol in an the solvent of choice. Solvents such as ethanol, methanol, and DMSO, purged with an inert gas can be used. The solubility of calcitriol in ethanol is approximately 1 mg/ml and approximately 50 mg/ml in methanol and DMSO. It is slightly soluble in acetone and chloroform.

Description

Calcitriol is synthesized from 7-dehydro cholesterol in humans via a non-enzymatic photochemical reaction with 290-310 nm UV light in the skin.¹ Hydroxylation of the resulting cholecalciferol in the liver produces 25-hydroxy vitamin D₃, the principal circulating form of vitamin D. A second, tightly regulated hydroxylation in the kidney produces calcitriol. Plasma calcitriol levels range from 10-70 pg/ml and are influenced by numerous dietary and hormonal factors.² The main physiologic effects of calcitriol are to increase the absorption of calcium at the level of the intestinal epithelium, and to increase the mineralization of bone via the direct stimulation of osteoblasts.³

References