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- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

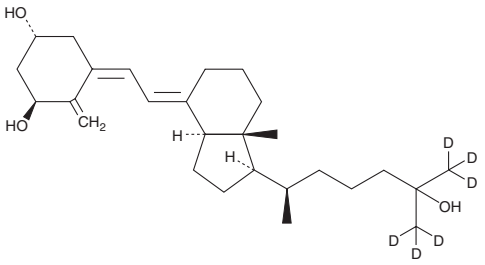
linkedin.com/company/szaboscandic

PRODUCT INFORMATION

Calcitriol-d_6

Item No. 22179

CAS Registry No.: 78782-99-7
Formal Name: (1R,3S,5Z)-4-methylene-5-[(2E)-2-[(1R,3aS,7aR)-octahydro-1-[(1R)-5-hydroxy-1-methyl-5-(methyl-d_3)hexyl-6,6,6-d_3]-7a-methyl-4H-inden-4-ylidene]ethylidene]-1,3-cyclohexanediol
Synonyms: Ro 21-5535/2, 1α,25-dihydroxy Vitamin D_3-d_6
MF: $C_{27}H_{38}D_6O_3$
FW: 422.7
Chemical Purity: ≥97% (Calcitrol)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_6); ≤1% d_0
Supplied as: A solid
Storage: 4°C
Stability: ≥1 year



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

Laboratory Procedures

Calcitriol-d_6 is intended for use as an internal standard for the quantification of calcitrol (Item No. 71820) 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).

Calcitriol-d_6 is supplied as a solid. A stock solution may be made by dissolving the cacitriol-$d_6$in the solvent of choice. Solvents such as DMSO and chloroform purged with an inert gas can be used.

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 D_3, 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

1. Kumar, R. Metabolism of 1,25-dihydroxyvitamin D_3. *Physiol. Rev.* **64(2)**, 478-505 (1984).
2. Bikle, D.D., Gee, E., Halloran, B., *et al.* Free 1,25-dihydroxyvitamin D levels in serum from normal subjects, pregnant subjects, and subjects with liver disease. *J. Clin. Invest.* **74(6)**, 1966-1971 (1984).
3. Portale, A.A., Halloran, B.P., and Morris, R.C., Jr. Physiologic regulation of the serum concentration of 1,25-dihydroxyvitamin D by phosphorus in normal men. *J. Clin. Invest.* **83(5)**, 1494-1499 (1989).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM