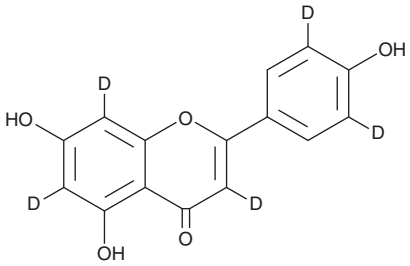
PRODUCT INFORMATION

Apigenin-d_5

Item No. 22106

CAS Registry No.: 263711-74-6
Formal Name: 5,7-dihydroxy-2-(4-hydroxyphenyl-3,5-d_2)-4H-1-benzopyran-4-one-3,6,8-d_3
Synonyms: [3,6,8,3',5'-d_5]-Apigenin, Chamomile-d_5, Flavone-d_5, Versulin-d_5
MF: $C_{15}H_5D_5O_5$
FW: 275.3
Chemical Purity: ≥98% (Apigenin)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_5); ≤1% d_0
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

Apigenin-d_5 contains five deuterium atoms at the 3, 6, 8, 3', and 5' positions. It is intended for use as an internal standard for the quantification of apigenin (Item No. 10010275) 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).

Apigenin-d_5 is supplied as a solid. A stock solution may be made by dissolving the apigenin-d_5 in the solvent of choice, which should be purged with an inert gas. Apigenin-d_5 is soluble in DMSO. Apigenin-d_5 is slightly soluble in methanol.

Description

Apigenin is a flavonoid compound found in many fruits and vegetables that selectively inhibits casein kinase 2 (CK2). Apigenin inhibits CK2 activity in the renal cortex with an IC_{50} value of 30 µM to improve renal function in a rat model of glomerulonephritis.[1] CK2 inhibition by 20 µM apigenin decreases the degradation of IκBα and down-regulates NF-κB levels in WEHI-231 cells.[2] Apigenin at 5 µM is a potent inhibitor of the synthesis of the inflammatory mediators nitric oxide and prostaglandin E_2, reducing inducible nitric oxide synthase (iNOS) and cyclooxygenase-2 (COX-2) expression by 56% and 64%, respectively, in the macrophage cell line J774A.1.[3]

References

1. Yamada, M., Katsuma, S., Adachi, T., *et al.* Inhibition of protein kinase CK2 prevents the progression of glomerulonephritis. *Proc. Natl. Acad. Sci. USA* **102(21)**, 7736-7741 (2005).
2. Shen, J., Channavajhala, P., Seldin, D.C., *et al.* Phosphorylation by the protein kinase CK2 promotes calpain-mediated degradation of IkBa.1. *J. Immunol.* **167(9)**, 4919-4925 (2001).
3. Raso, G.M., Meli, R., Di Carlo, G., *et al.* Inhibition of inducible nitric oxide synthase and cyclooxygenase-2 expression by flavonoids in macrophage J774A.1. *Life Sci.* **68(8)**, 921-931 (2001).

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