# PRODUCT INFORMATION

## Hesperetin-$^{13}$C-d$_3$

*Item No. 28806*

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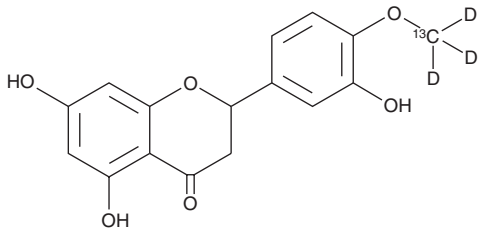
| **CAS Registry No.:** | 2750534-85-9 |
| **Formal Name:** | 2,3-dihydro-5,7-dihydroxy-2-(3-hydroxy-(4-methoxy-$^{13}$C-d$_3$)phenyl)-4H-1-benzopyran-4-one |
| **MF:** | $C_{15}[^{13}C]H_{11}D_3O_6$ |
| **FW:** | 306.3 |
| **Chemical Purity:** | ≥95% (mixture of isomers) |
| **Deuterium Incorporation:** | ≥99% deuterated forms ($d_1$-$d_3$); ≤1% $d_0$ |
| **Supplied as:** | A solid |
| **Storage:** | -20°C |
| **Stability:** | ≥4 years |
| **Item Origin:** | Synthetic |




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

### Laboratory Procedures

Hesperetin-$^{13}$C-d$_3$ is intended for use as an internal standard for the quantification of hesperetin (Item No. 10006084) 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).

Hesperetin-$^{13}$C-d$_3$ is supplied as a solid. A stock solution may be made by dissolving the hesperetin-$^{13}$C-d$_3$ in the solvent of choice, which should be purged with an inert gas. Hesperetin-$^{13}$C-d$_3$ is soluble in DMSO, dimethyl formamide, and a 1:1 solution of acetonitrile:methanol.

### Description

Hesperetin is a flavonoid that has been found in citrus fruits and has diverse biological activities.[1-5] It reduces ApoB protein levels, *ACAT2* expression, and LDL degradation in HepG2 cells when used at a concentrations ranging from 10 to 200 µM.[1] Hesperetin inhibits IgG-induced β-hexosaminidase release from RBL-2H3 cells ($IC_{50}$ = 0.099 mg/ml).[2] It inhibits LPS-induced nitric oxide (NO) production and reduces levels of inducible nitric oxide synthase (iNOS), IL-6, and IL-1β in BV-2 microglial cells.[3] Hesperetin (5 mg/kg) inhibits passive cutaneous anaphylaxis in mice.[2] It reduces body weight loss, colon shortening, and ulcer severity in a mouse model of TNBS-induced ulcerative colitis.[4] Hesperetin reduces cortical and hippocampal neuronal apoptosis and increases time spent in the target quadrant in the Morris water maze in a mouse model of LPS-induced neuronal inflammation.[5]

### References


1. Wilcox, L.J., Borradaile, N.M., de Dreu, L.E., *et al. J. Lipid Res.* **42(5)**, 725-734 (2001).
2. Lee, N.K., Choi, S.H., Park, S.H., *et al. Pharmacology* **71(4)**, 174-180 (2004).
3. Jo, S.H., Kim, M.E., Cho, J.H., *et al. Arch. Pharm. Res.* **42(8)**, 695-703 (2019).
4. He, W., Liu, M., Li, Y., *et al. Eur. J. Pharmacol.* **857**, 172456 (2019).
5. Muhammad, T., Ikram, M., Ullah, R., *et al. Nutrients* **11(3)**, 648 (2019).





**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