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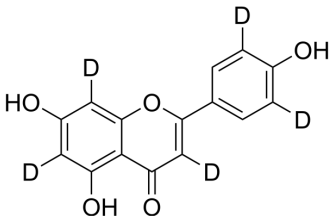
Apigenin-d_5

Cat. No.:	HY-N1201S
CAS No.:	263711-74-6
Molecular Formula:	$C_{15}H_5D_5O_5$
Molecular Weight:	275.27
Target:	Endogenous Metabolite; Autophagy; Cytochrome P450; Isotope-Labeled Compounds
Pathway:	Metabolic Enzyme/Protease; Autophagy; Others
Storage:	-20°C, protect from light, stored under nitrogen * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light, stored under nitrogen)



BIOLOGICAL ACTIVITY

Description	Apigenin-d5 is a deuterated labeled Apigenin[1]. Apigenin (4',5,7-Trihydroxyflavone) is a competitive CYP2C9 inhibitor with a K_i of 2 μM.
In Vitro	Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs[1]. Apigenin (4',5,7-Trihydroxyflavone) inhibits cytochrome P450 2C9 (CYP2C9) with a K_i of 2 μM in the CYP2C9 RECO system (a purified, reconstituted enzyme system containing recombinant human CYP2C9, P450 reductase, cytochrome b_5, and liposomes)[2]. Apigenin inhibits cell proliferation. The growth inhibition rate (IR) of 20, 40, and 80 μM of Apigenin is 38%, 71%, and 99% respectively on the 7thd. after exposure to Apigenin for 24 or 48 h, the clone formation of SGC-7901 cells is suppressed in a dose- and time-dependent manner. The cloning efficiency in 80 μM is 9.8% and 5% after treatment with Apigenin for 24 and 48 h, while in the control group, it is 40.4% and 43.4%[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Apigenin (4',5,7-Trihydroxyflavone), a natural flavonoid, possesses a broad spectrum of biological properties, including antioxidative, anti-inflammatory, anticancer, and neuroprotective effects. Apigenin (125 mg/kg and 250 mg/kg) alleviates Adriamycin (ADR) (24 mg/kg)-induced myocardial injury. Apigenin inhibits serum aspartate amino transferase (AST) release. Apigenin reduces serum lactate dehydrogenase (LDH) release. Apigenin reduces serum creatine kinase (CK) contents[4]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Si D, et al. Mechanism of CYP2C9 inhibition by flavones and flavonols. Drug Metab Dispos. 2009 Mar;37(3):629-34.

[2]. Wu K, et al. Inhibitory effects of apigenin on the growth of gastric carcinoma SGC-7901 cells. World J Gastroenterol. 2005 Aug 7;11(29):4461-4.

[3]. Yu W, et al. Apigenin Attenuates Adriamycin-Induced Cardiomyocyte Apoptosis via the PI3K/AKT/mTOR Pathway. Evid Based Complement Alternat Med. 2017;2017:2590676.

[4]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019 Feb;53(2):211-216.

Caution: Product has not been fully validated for medical applications. For research use only.

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