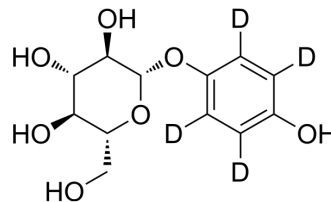


Arbutin-d₄

Cat. No.:	HY-N0192S
Molecular Formula:	C ₁₂ H ₁₂ D ₄ O ₇
Molecular Weight:	276.28
Target:	Tyrosinase; Endogenous Metabolite; Isotope-Labeled Compounds
Pathway:	Metabolic Enzyme/Protease; Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Arbutin-d ₄ is deuterium labeled Arbutin. Arbutin (β-Arbutin) is a competitive inhibitor of tyrosinase in melanocytes, with Kiapp values of 1.42 mM for monophenolase; 0.9 mM for diphenolase. Arbutin is also used as depigmenting agents[1]. Arbutin is a natural polyphenol isolated from the bearberry plant <i>Arctostaphylos uva-ursi</i> , possesses with anti-oxidant, anti-inflammatory and anti-tumor properties[2][3].
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] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother*. 2019;53(2):211-216.
- [2]. Garcia-Jimenez A, et al. Action of tyrosinase on alpha and beta-arbutin: A kinetic study. *PLoS One*. 2017 May 11;12(5):e0177330.
- [3]. Jiang L, et al. Investigation of the pro-apoptotic effects of arbutin and its acetylated derivative on murinemelanoma cells. *Int J Mol Med*. 2018 Feb;41(2):1048-1054.
- [4]. Nalban N, et al. Arbutin Attenuates Isoproterenol-Induced Cardiac Hypertrophy by Inhibiting TLR-4/NF-κB Pathway in Mice. *Cardiovasc Toxicol*. 2019 Sep 4.

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

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