Vilanterol-d_4 trifenatate

Cat. No.: HY-14300AS

CAS No.: 2021249-10-3

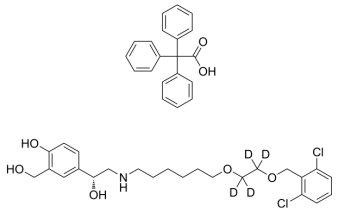
Molecular Formula: $C_{44}H_{45}D_4Cl_2NO_7$

Molecular Weight: 778.79

Target: Adrenergic Receptor; Isotope-Labeled Compounds

Pathway: GPCR/G Protein; Neuronal Signaling; Others

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Vilanterol-d_4 (trifenatate) is deuterium labeled Vilanterol (trifenatate). Vilanterol trifenatate (GW642444 trifenatate) is a long-acting β2-adrenoceptor (β2-AR) agonist with inherent 24-hour activity. The pEC50s for β2-AR, β1-AR and β3-AR are 10.37, 6.98 and 7.36, respectively.
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]. Harrell AW, et al. Metabolism and disposition of Vilanterol, a long-acting β(2)-adrenoceptor agonist for inhalation use in humans. Drug Metab Dispos. 2013 Jan;41(1):89-100.

[3]. Kempsford R, et al. Vilanterol trifenatate, a novel inhaled long-acting beta2 adrenoceptor agonist, is well tolerated in healthy subjects and demonstrates prolonged bronchodilation in subjects with asthma and COPD. Pulm Pharmacol Ther. 2013 Apr;26(2):256-

[4]. Slack RJ, et al. In vitro pharmacological characterization of vilanterol, a novel long-acting β2-adrenoceptor agonist with 24-hour duration of action. J Pharmacol Exp Ther. 2013 Jan;344(1):218-30

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