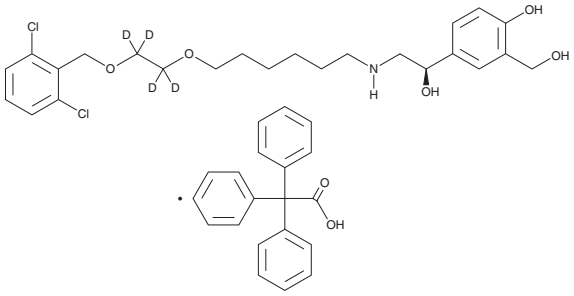
PRODUCT INFORMATION

Vilanterol-d_4 (triphenylacetate)

Item No. 30813

CAS Registry No.: 2021249-10-3
Formal Name: α^1R-[[[6-[2-[(2,6-dichlorophenyl)methoxy]ethoxy-d_4]hexyl]amino]methyl]-4-hydroxy-1,3-benzenedimethanol, triphenylacetate
MF: $C_{24}H_{29}Cl_2D_4NO_5 \bullet C_{20}H_{16}O_2$
FW: 778.8
Chemical Purity: ≥98% (Vilanterol)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_4); ≤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

Vilanterol-d_4 (triphenylacetate) is intended for use as an internal standard for the quantification of vilanterol (Item No. 20702) 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).

Vilanterol-d_4 (triphenylacetate) is supplied as a solid. A stock solution may be made by dissolving the vilanterol-d_4 (triphenylacetate) in the solvent of choice, which should be purged with an inert gas. Vilanterol-d_4 (triphenylacetate) is soluble in methanol, DMSO, and dimethyl formamide.

Description

Vilanterol-d_4 is intended for use as an internal standard for the quantification of vilanterol (Item No. 20702) by GC- or LC-MS. Vilanterol is a long-acting agonist of the β_2-adrenergic receptor (β_2-AR).[1] It selectively induces cAMP accumulation in CHO cells expressing the β_2-AR over the β_1- and β_3-ARs (EC_{50} = 0.4, 398, and 794 nM for the human receptors, respectively). Vilanterol inhibits contractions induced by electrical stimulation in isolated superfused guinea pig trachea strips. It inhibits bronchospasms induced by histamine (Item No. 33828) in guinea pigs when administered *via* nebulization (EC_{50} = 30 µM). Formulations containing vilanterol, in combination with fluticasone, have been used in the treatment of chronic obstructive pulmonary disease (COPD) and asthma.

Reference

1. Procopiou, P.A., Barrett, V.J., Bevan, N.J., *et al.* Synthesis and structure-activity relationships of long-acting beta2 adrenergic receptor agonists incorporating metabolic inactivation: An antedrug approach. *J. Med. Chem.* **53(11)**, 4522-4530 (2010).

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