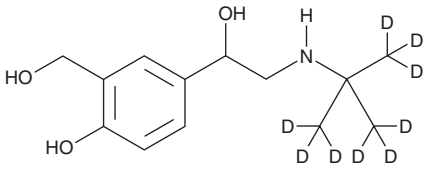
PRODUCT INFORMATION

Salbutamol-d_9

Item No. 25234

CAS Registry No.: 1173021-73-2
Formal Name: α^1-[[[1,1-di(methyl-d_3)ethyl-2,2,2-d_3]amino]methyl]-4-hydroxy-1,3-benzenedimethanol
Synonyms: (±)-Salbutamol-d_9, DL-Salbutamol-d_9
MF: $C_{13}H_{12}D_9NO_3$
FW: 248.4
Chemical Purity: ≥95% (Salbutamol)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_9); ≤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

Salbutamol-d_9 is intended for use as an internal standard for the quantification of salbutamol (Item No. 21003) 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).

Salbutamol-d_9 is supplied as a solid. A stock solution may be made by dissolving the salbutamol-d_9 in the solvent of choice, which should be purged with an inert gas. Salbutamol-d_9 is slightly soluble in methanol.

Description

Salbutamol is an agonist of the β_2-adrenergic receptor (β_2-AR; K_d = 759 nM in a radioligand binding assay using CHO cells expressing the human receptor).[1] It is selective for β_2-ARs over β_1- and β_3-ARs (K_ds = 46.8 and 21.9 µM, respectively). Salbutamol (25-50 µg/kg, i.v.) reduces acetylcholine-induced bronchospasm in anesthetized guinea pigs.[2] It also reduces response of bronchial muscle to efferent vagal stimulation in anesthetized cats and dogs when administered at doses ranging from 1 to 2.5 and 10 to 20 µg/kg, respectively. Nebulized salbutamol reduces transpulmonary pressure in recurrent airway obstruction-affected horses (EC_{50} = 39.7 µg).[3] Formulations containing salbutamol have been used in the treatment of asthma and chronic obstructive pulmonary disease (COPD).

References

1. Baker, J.G. The selectivity of β-adrenoceptor antagonists at the human β_1, β_2 and β_3 adrenoceptors. *Br. J. Pharmacol.* **144(3)**, 317-322 (2005).
2. Cullum, V.A., Farmer, J.B., Jack, D., *et al.* Salbutamol: A new, selective β-adrenoceptive receptor stimulant. *Br. J. Pharmacol.* **35(1)**, 141-151 (1969).
3. Arroyo, M.G., Couëtil, L.L., Nogradi, N., *et al.* Efficacy of inhaled levalbuterol compared to albuterol in horses with recurrent airway obstruction. *J. Vet. Intern. Med.* **30(4)**, 1333-1337 (2016).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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