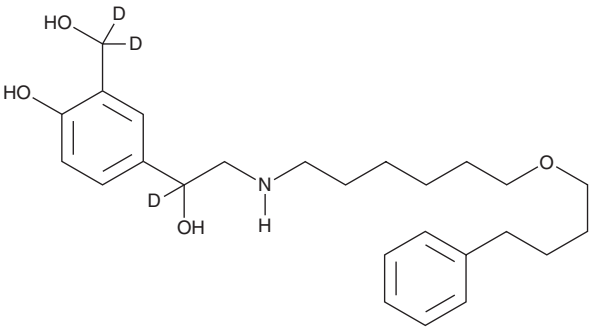
PRODUCT INFORMATION

Salmeterol-d_3

Item No. 26449



CAS Registry No.:	497063-94-2
Formal Name:	6-hydroxy-α^3-[[[6-(4-phenylbutoxy)hexyl]amino] methyl]-1,3-benzenedimethan-α^1,α^1,α^3-d_3-ol
MF:	$C_{25}H_{34}D_3NO_4$
FW:	418.6
Chemical Purity:	≥98% (Salmeterol)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_3); ≤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

Salmeterol-d_3 is intended for use as an internal standard for the quantification of salmeterol (Item No. 16009) 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).

Salmeterol-d_3 is supplied as a solid. A stock solution may be made by dissolving the salmeterol-d_3 in the solvent of choice, which should be purged with an inert gas. Salmeterol-d_3 is soluble in organic solvents such as ethanol and DMSO. The solubility of salmeterol-d_3 in these solvents is approximately 50 and 100 mM, respectively.

Description

Salmeterol is a long-acting β_2-adrenergic receptor agonist (β_2-AR; EC_{50}s = 0.79, 63.1, and 9.4 nM for β_2-, β_1-, and β_3-ARs, respectively).[1] It inhibits electrically-stimulated contraction of isolated guinea pig trachea strips (EC_{50} = 2.51 nM) and histamine-induced bronchoconstriction in guinea pigs *via* aerosol administration of doses ranging from 0.12 to 12 mM.[2] Salmeterol binds to an exosite domain of β_2-adrenergic receptors, producing a slow onset of action and prolonged activation.[3] Formulations containing salmeterol have been used in the treatment of asthma, including exercise-induced asthma, and chronic obstructive pulmonary disease.

References

1. Procopiou, P.A., Barrett, V.J., Ford, A.J., *et al.* The discovery of long-acting saligenin β_2 adrenergic receptor agonists incorporating a urea group. *Bioorg. Med. Chem.* **19(20)**, 6026-6032 (2011).
2. Ball, D.I., Brittain, R.T., Coleman, R.A., *et al.* Salmeterol, a novel, long-acting β_2-adrenoceptor agonist: Characterization of pharmacological activity *in vitro* and *in vivo*. *Br. J. Pharmacol.* **104(3)**, 665-671 (1991).
3. Isin, B., Estiu, G., Wiest, O., *et al.* Identifying ligand binding conformations of the β_2-adrenergic receptor by using its agonists as computational probes. *PLoS One* **7(12)**, e50186 (2012).

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