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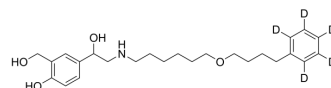
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Salmeterol-d₅

Cat. No.:	HY-14302S1
CAS No.:	1093433-84-1
Molecular Formula:	C ₂₅ H ₃₂ D ₅ NO ₄
Molecular Weight:	420.6
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	Salmeterol-d ₅ is a deuterated labeled Salmeterol ^[1] . Salmeterol (GR33343X) is a potent and selective human β ₂ adrenoceptor agonist. Salmeterol shows potent stimulation of cAMP accumulation in CHO cells expressing human β ₂ , β ₁ and β ₃ adrenoceptors with pEC ₅₀ s of 9.6, 6.1, and 5.9, respectively ^[2] .
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] . Salmeterol (0.001-25 μM) inhibits human T lymphocyte proliferation ^[3] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Salmeterol (0.16 mg/kg), Formoterol (0.32 mg/kg) and combined treatment have therapeutic effects in mice with chronic obstructive pulmonary disease (COPD) ^[4] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Malcolm Johnson. Effects of beta2-agonists on resident and infiltrating inflammatory cells. *J Allergy Clin Immunol*. 2002 Dec;110(6 Suppl):S282-90.
- [2]. Panayiotis A Procopiou, et al. The discovery of long-acting saligenin β₂ adrenergic receptor agonists incorporating a urea group. *Bioorg Med Chem*. 2011 Oct 15;19(20):6026-32.
- [3]. Zhiyuan Wang, et al. Efficacy of salmeterol and formoterol combination treatment in mice with chronic obstructive pulmonary disease. *Exp Ther Med*. 2018 Feb;15(2):1538-1545.
- [4]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother*. 2019 Feb;53(2):211-216.

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

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