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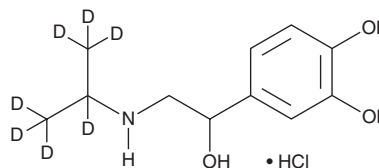
PRODUCT INFORMATION



Isoproterenol-d₇ (hydrochloride)

Item No. 34704

CAS Registry No.: 2517584-04-0
Formal Name: 4-(1-hydroxy-2-((propan-2-yl-d₇)amino)ethyl) benzene-1,2-diol, monohydrochloride
Synonym: Isoprenaline-d₇
MF: C₁₁H₁₀D₇NO₃ • HCl
FW: 254.8
Chemical Purity: ≥95% (Isoproterenol)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₇); ≤1% d₀
Supplied as: A solid
Storage: -20°C
Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Isoproterenol-d₇ (hydrochloride) is intended for use as an internal standard for the quantification of isoproterenol (Item No. 15592) 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).

Isoproterenol-d₇ (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the isoproterenol-d₇ (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Isoproterenol-d₇ (hydrochloride) is slightly soluble in DMSO and methanol.

Description

Isoproterenol is an agonist of β_1 - and β_2 -adrenergic receptors (β_1 - and β_2 -ARs; $K_s = 224$ and 458 nM, respectively).¹ It is selective for β_1 - and β_2 -ARs over β_3 -ARs ($K_i = 1,570$ nM). Isoproterenol inhibits contractions in isolated field-stimulated rat vas deferens ($EC_{50} = 45.6$ nM).² *In vivo*, isoproterenol (0.33 mg/kg) decreases blood pressure and increases water intake in nephrectomized rats.³ It reduces blood pressure and increases heart rate in renal hypertensive rabbits.⁴ Isoproterenol inhibits histamine-induced bronchospasms in anesthetized dogs.⁵ Formulations containing isoproterenol have been used in the treatment of bradycardias and to improve breathing during anesthesia.

References

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- Hosutt, J.A., Rowland, N., and Stricker, E.M. Hypotension and thirst in rats after isoproterenol treatment. *Physiol. Behav.* **21**(4), 593-598 (1978).
- van Boom, M. and Saxena, P.R. Systemic and regional haemodynamic responses to isoprenaline in conscious renal hypertensive rabbits. *Clin. Exp. Pharmacol. Physiol.* **8**(3), 227-239 (1981).
- Wasserman, M.A. and Levy, B. Cardiovascular and bronchomotor responses to selective beta adrenergic receptor agonists in the anesthetized dog. *J. Pharmacol. Exp. Ther.* **189**(2), 445-455 (1974).

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.

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