

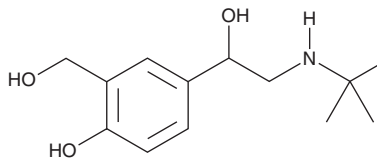
PRODUCT INFORMATION



Salbutamol

Item No. 21003

CAS Registry No.:	18559-94-9
Formal Name:	α^1 -[[[(1,1-dimethylethyl)amino]methyl]-4-hydroxy-1,3-benzenedimethanol
Synonyms:	AH 3365, (\pm)-Salbutamol, DL-Salbutamol
MF:	$C_{13}H_{21}NO_3$
FW:	239.3
Purity:	$\geq 98\%$
UV/Vis.:	λ_{max} : 226, 277 nm
Supplied as:	A crystalline 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

Salbutamol is supplied as a crystalline solid. A stock solution may be made by dissolving the salbutamol in the solvent of choice. Salbutamol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of salbutamol in ethanol and DMF is approximately 10 mg/ml and approximately 5 mg/ml in DMSO.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of salbutamol can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of salbutamol in PBS, pH 7.2, is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

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 μ M, respectively). Salbutamol (25-50 μ g/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 μ g/kg, respectively. Nebulized salbutamol reduces transpulmonary pressure in recurrent airway obstruction-affected horses ($EC_{50} = 39.7$ μ g).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

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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