

PRODUCT INFORMATION

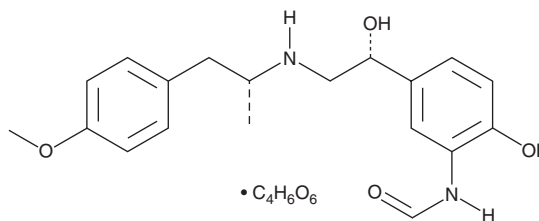


Arformoterol (tartrate)

Item No. 23935

CAS Registry No.: 200815-49-2
Formal Name: N-[2-hydroxy-5-[(1R)-1-hydroxy-2-[[[(1R)-2-(4-methoxyphenyl)-1-methylethyl]amino]ethyl]phenyl]-formamide, (2R,3R)-2,3-dihydroxybutanedioate

Synonym: (R,R)-Formoterol
MF: C₁₉H₂₄N₂O₄ • C₄H₆O₆
FW: 494.5
Purity: ≥98%
UV/Vis.: λ_{max}: 216, 247, 284 nm
Supplied as: A crystalline 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

Arformoterol (tartrate) is supplied as a crystalline solid. A stock solution may be made by dissolving the arformoterol (tartrate) in the solvent of choice. Arformoterol (tartrate) is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of arformoterol (tartrate) in these solvents is approximately 25 and 12.5 mg/ml, respectively.

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 arformoterol (tartrate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of arformoterol (tartrate) in PBS, pH 7.2, is approximately 2.5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Aformoterol is the (R,R)-enantiomer of the β₂-adrenergic receptor (β₂-AR) agonist formoterol (Item No. 15584).¹ It selectively binds to β₁- over β₂-ARs (K_ds = 2.9 and 113 nM, respectively) as well as β₃-adrenergic, B₂ bradykinin, neurokinin 1 (NK₁) and NK₂ receptors when used at concentrations up to 3 μM. Aformoterol induces cAMP accumulation in cultured human bronchial epithelial cells. *Ex vivo*, aformoterol (0.01-1,000 nM) induces dose-dependent relaxation of guinea pig tracheal strips precontracted with carbamoylcholine (Item No. 14486), ovalbumin, or histamine (pD₂s = 8.4, 9.5, and 9.5, respectively). *In vivo*, aformoterol reverses histamine- and ovalbumin-induced bronchoconstriction in guinea pigs (ED₅₀s = 1 and 40 nmol/kg, respectively). Formulations containing aformoterol have been used in the treatment of chronic obstructive pulmonary disease (COPD).

Reference

1. Handley, D.A., Senanayake, C.H., Dutczak, W., *et al.* Biological actions of formoterol isomers. *Pulm. Pharmacol. Ther.* **15**(2), 135-145 (2002).

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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