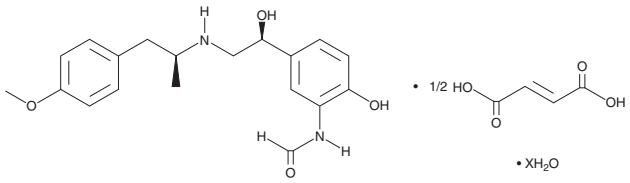
PRODUCT INFORMATION

Formoterol (hemifumarate hydrate)

Item No. 15584

Formal Name: *rel*-N-[2-hydroxy-5-[(1R)-1-hydroxy-2-[[(1R)-2-(4-methoxyphenyl)-1-methylethyl]amino]ethyl]phenyl]-formamide, 2E-butenedioate (2:1), hydrate
MF: $C_{19}H_{24}N_2O_4 \bullet 1/2C_4H_4O_4 [XH_2O]$
FW: 402.5
Purity: ≥99%
UV/Vis.: λ_{max}: 215, 285 nm
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

Formoterol (hemifumarate hydrate) is supplied as a solid. A stock solution may be made by dissolving the formoterol (hemifumarate hydrate) in the solvent of choice, which should be purged with an inert gas. Formoterol (hemifumarate hydrate) is soluble in organic solvents such as methanol and DMSO. The solubility of formoterol (hemifumarate hydrate) in these solvents is approximately 1 and 20 mg/ml, respectively.

Formoterol (hemifumarate hydrate) is slightly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

Formoterol is a selective agonist of the β_2-adrenergic receptor (β_2-AR; K_is = 7.58 and 2,630 nM for β_2- and β_1-ARs, respectively).[1] It is selective for β-ARs in isolated guinea pig trachea over those in atrial tissue (pD_2s = 9.29 and 6.98, respectively) and has a long duration of action.[1,2] Aerosolized formoterol (10 µg/ml, inhaled) prevents the late asthmatic response and eosinophil and macrophage infiltration in bronchoalveolar lavage fluid (BALF), and as well as reduces bronchial reactivity in a guinea pig model of allergic asthma induced by ovalbumin.[3] Formulations containing formoterol have been used, alone and in combination with other compounds, in the treatment of chronic obstructive pulmonary disease and asthma.[4-6]

References

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4. Decramer, M.L., Hanania, N.A., Lötvall, J.O., *et al. Int. J. Chron. Obstruct. Pulmon. Dis.* **8**, 53-64 (2013).
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