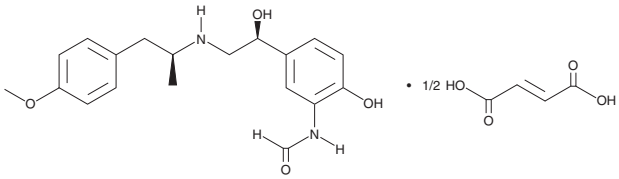
PRODUCT INFORMATION

Formoterol (hemifumarate)

Item No. 15584

CAS Registry No.: 43229-80-7
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)
Synonyms: CGP 25827A, Foradil, NSC 299587, YM-08316
MF: $C_{19}H_{24}N_2O_4 \bullet 1/2C_4H_4O_4$
FW: 402.5
Purity: ≥99%
Supplied as: A yellow to pale yellow solid
Storage: Room temperature
Stability: As supplied, 1 year from the QC date provided on the Certificate of Analysis, when stored properly



Laboratory Procedures

Formoterol (hemifumarate) is supplied as a yellow to pale yellow solid. A stock solution may be made by dissolving the formoterol (hemifumarate) in the solvent of choice. Formoterol (hemifumarate) is soluble in DMSO at a concentration of approximately 50 mM.

Description

Formoterol is an agonist of β-adrenergic receptors that activates the β_1, β_2, and β_3 receptors with pEC_{50} values of 7.5, 9.0, and 6.8 respectively.[1] It displays high selectivity for β-adrenoceptors in the trachea over those in atria.[2] Formoterol activity is retained in the airway for extended periods, so it is classified as a long-acting β-receptor agonist.[2] It has use, alone or in combination with other compounds, in chronic obstructive pulmonary disease and asthma.[3-5]

References

1. Procopiou, P.A., Barrett, V.J., Ford, A.J., *et al*. The discovery of long-acting saligenin β_2 adrenergic receptor agonists incorporating a urea group. *Bioorg. Med. Chem.* **19(20)**, 6026-6032 (2011).
2. Anderson, G.P. Formoterol: Pharmacology, molecular basis of agonism, and mechanism of long duration of a highly potent and selective β_2-adrenoceptor agonist bronchodilator. *Life Sci.* **52(26)**, 2145-2160 (1993).
3. Decramer, M.L., Hanania, N.A., Lötvall, J.O., *et al*. The safety of long-acting β_2-agonists in the treatment of stable chronic obstructive pulmonary disease. *Int. J. Chron. Obstruct. Pulmon. Dis.* **8**, 53-64 (2013).
4. Tashkin, D.P. and Ferguson, G.T. Combination bronchodilator therapy in the management of chronic obstructive pulmonary disease. *Respir. Res.* **14**, 49 (2013).
5. Bush, A. and Saglani, S. Management of severe asthma in children. *Lancet* **376(9743)**, 814-825 (2010).

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
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 02/23/2017

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM