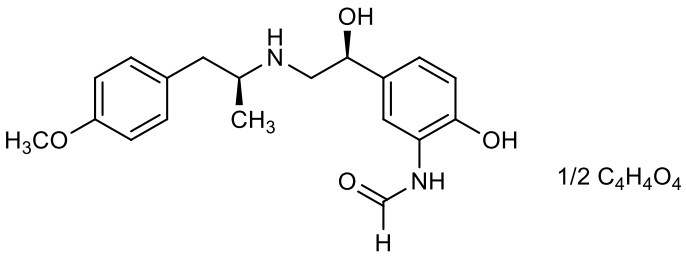
Catalog # 10-5092
Formoterol hemifumarate

CAS# 43229-80-7

(R,R)-N-[2-Hydroxy-5-[1-hydroxy-2-[[2-(4-methoxyphenyl)-1-methylethyl]amino]ethyl]phenyl] formamide

BD 40A

Lot # X109555



Potent, long-acting agonist specific to β2 (Ki = 7.6 nM), but not β1 (Ki > 2.6 µM), adrenergic receptors in trachea (pD2 = 9.3) over atrium (pD_2 = 7.0).[1,2] Reduces adhesion and superoxide anion production in cultured activated eosinophils.[3] Reverses cachexia in rats and mice via inhibition of the ATP-ubiquitin-dependent proteolytic system.[4] Rescues LPS-induced motor function deficits and nigrostriatal dopamine loss in a rat model of Parkinson's.[5] Clinically useful for respiratory diseases.

1) Anderson *et al*. (1993), *Formoterol: pharmacology, molecular basis of agonism and mechanism of long duration of a highly potent and selective beta 2-adrenoceptor agonist bronchodilator*; Life Sciences, **52** 2145
2) Teng *et al*. (2005), *Structure-activity relationship study of novel necroptosis inhibitors*; Bioorg. Med. Chem. Lett., **15** 5039
3) Noguchi *et al*. (2015), *Effect of beta2-adrenergic agonist on eosinophil adhesion, superoxide anion generation, and degranulation*; Allergol. Int., **64** S46
4) Busquets *et al.* (2004), *Anticachectic effects of formoterol: a drug for potential treatment of muscle wasting*; Cancer Res., **64** 6725
5) O'Neill *et al*. (2020), *Pharmacological targeting of ß2-adrenoceptors is neuroprotective in the LPS inflammatory rat model of Parkinson's disease*; Br. J. Pharmacol., **177** 282

PHYSICAL DATA

Molecular Weight:	402.44
Molecular Formula:	$C_{19}H_{24}N_2O_4 \cdot ½\ C_4H_4O_4$
Purity:	99% by HPLC
	NMR: (Conforms)
Solubility:	DMSO (up to 20 mg/ml)
Physical Description:	White or Off-white solid
Storage and Stability:	Store as supplied desiccated at room temperature for up to 2 years from the date of purchase. Solutions in DMSO may be stored at -20°C for up to 3 months.

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