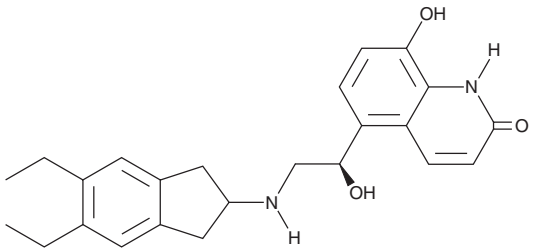
PRODUCT INFORMATION

Indacaterol

Item No. 20070

CAS Registry No.:	312753-06-3
Formal Name:	5-[(1R)-2-[(5,6-diethyl-2,3-dihydro-1H-inden-2-yl)amino]-1-hydroxyethyl]-8-hydroxy-2(1H)-quinolinone
Synonym:	QAB149
MF:	$C_{24}H_{28}N_2O_3$
FW:	392.5
Purity:	≥98%
UV/Vis.:	λ_{max}: 260, 281, 292 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

Indacaterol is supplied as a crystalline solid. A stock solution may be made by dissolving the indacaterol in the solvent of choice, which should be purged with an inert gas. Indacaterol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of indacaterol in these solvents is approximately 1, 15, and 20 mg/ml, respectively.

Indacaterol is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, indacaterol should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Indacaterol has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Indacaterol is a long-acting and selective β_2-adrenergic receptor (β_2-AR) agonist (EC_{50} = 8.71 nM for increasing intracellular cAMP levels *in vitro*).[1] It is selective for β_2-ARs over β_1- and β_3-ARs (K_is = 43.6, 616.6, and 3,311.3 nM, respectively). Indacaterol inhibits bronchoconstriction induced by serotonin (5-HT; Item No. 14332) in conscious guinea pigs with a maximal effect of 85% when administered intratracheally at a dose of 6.7 µg/kg. It also inhibits bronchoconstriction induced by methacholine (Item No. 23092) in rhesus monkeys with a maximal effect of 75% when administered *via* nebulization at a dose of 12.5 mg/kg. Formulations containing indacaterol have been used alone, and in combination with glycopyrrolate, in the treatment of chronic obstructive pulmonary disease.

Reference

1. Battram, C., Charlton, S. J., Cuenoud, B., *et al.* *In vitro* and *in vivo* pharmacological characterization of 5-[(R)-2-(5,6-diethyl-indan-2-ylamino)-1-hydroxy-ethyl]-8-hydroxy-1H-quinolin-2-one (indacaterol), a novel inhaled β_2 adrenoceptor agonist with a 24-h duration of action. *J. Pharmacol. Exp. Ther.* **317(2)**, 762-770 (2006).

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