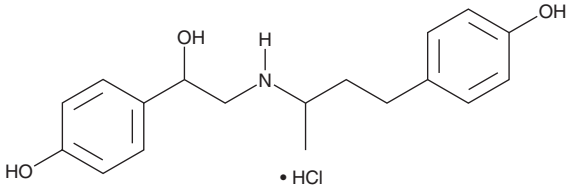
PRODUCT INFORMATION

Ractopamine (hydrochloride)

Item No. 27613

CAS Registry No.: 90274-24-1
Formal Name: 4-hydroxy-α-[[[3-(4-hydroxyphenyl)-1-methylpropyl]amino]methyl]-benzenemethanol, monohydrochloride
Synonym: LY031537
MF: $C_{18}H_{23}NO_3$ • HCl
FW: 337.8
Purity: ≥95% (mixture of isomers)
UV/Vis.: λ_{max}: 226 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

Ractopamine (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the ractopamine (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Ractopamine (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of ractopamine (hydrochloride) in ethanol is approximately 10 mg/ml and approximately 2 mg/ml in DMSO and DMF.

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 ractopamine (hydrochloride) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of ractopamine (hydrochloride) in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Ractopamine is a trace amine-associated receptor 1 (TAAR1) agonist.[1] It increases chloride conductance in *X. laevis* oocytes expressing the human cystic fibrosis transmembrane conductance regulator (CFTR) and mouse TAAR1 (EC_{50} = 16 µM), an effect that can be blocked by the TAAR1 antagonist EPPTB (Item No. 34330). It selectively induces chloride conductance in TAAR1- and CFTR-expressing oocytes over those expressing the human β_2-adrenergic receptor (β_2-AR) and CFTR at 36 µM. However, it is also considered a β_2-AR agonist that binds to β_2-ARs (K_i = 0.18 µM for the recombinant human receptor expressed in *Sf9* cells) and induces relaxation of isolated guinea pig trachea with an EC_{50} value of 9.1 nM.[2] Formulations containing ractopamine have been used as food additives in livestock to increase weight gain and leanness and improve feed efficiency.

References

1. Liu, X., Grandy, D.K., and Janowsky, A. Ractopamine, a livestock feed additive, is a full agonist at trace amine-associated receptor 1. *J. Pharmacol. Exp. Ther.* **350(1)**, 124-129 (2014).
2. Kern, C., Meyer, T., Droux, S., *et al.* Synthesis and pharmacological characterization of *β*2-adrenergic agonist enantiomers: Zilpaterol. *J. Med. Chem.* **52(6)**, 1773-1777 (2009).

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