AHN 1-055 hydrochloride

Cat. No.: HY-101315

CAS No.: 202646-03-5

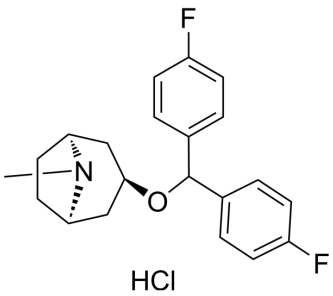
Molecular Formula: $C_{21}H_{24}ClF_2NO$

Molecular Weight: 380

Target: Dopamine Transporter

Pathway: Neuronal Signaling

Storage: 4°C, sealed storage, away from moisture
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (263.16 mM; Need ultrasonic)
H_2O : 33.33 mg/mL (87.71 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.6316 mL	13.1579 mL	26.3158 mL
5 mM	0.5263 mL	2.6316 mL	5.2632 mL
10 mM	0.2632 mL	1.3158 mL	2.6316 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (5.47 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (5.47 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (5.47 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

AHN 1-055 hydrochloride is a dopamine uptake inhibitor, with an IC_{50} of 71 nM. AHN 1-055 hydrochloride binds with high affinity to the dopamine transporter (DAT)[1].

IC_{50} & Target

IC50: 71 nM (dopamine uptake)[1]

In Vivo

AHN 1-055 (5 mg/kg; i.v.) inhibits the uptaking of brain dopamine with an IC_{50} of 311.8 ng/ml in vivo[1].
AHN 1-055 (10 mg/kg; i.v.) exhibits C^{max} of 1.48 mg/L and terminal elimination half-lives of 7.69 h due to 1.8L/h/kg plasma clearance combined with 18.7 L/kg volumes of distribution[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Adult male Sprague Dawley rats (250-275 g)[1]
Dosage:	5 mg/kg (Pharmacokinetic Analysis)
Administration:	I.v. administration
Result:	C_{max} (1.48 mg/L); $T_{1/2}$ (7.69 h).

REFERENCES

[1]. Sangeeta R, et, al. Investigation of the potential pharmacokinetic and pharmaco-dynamic drug interaction between AHN 1-055, a potent benztropine analog used for cocaine abuse, and cocaine after dosing in rats using intracerebral microdialysis. Biopharm Drug Dispos. 2006 Jul; 27(5): 229-40.

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