Ivacaftor-d_9

Cat. No.: HY-13017S

CAS No.: 1413431-07-8

Molecular Formula: $C_{24}H_{19}D_9N_2O_3$

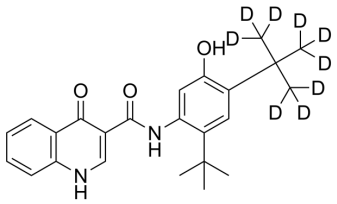
Molecular Weight: 401.55

Target: CFTR

Pathway: Membrane Transporter/Ion Channel

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (249.03 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.4904 mL	12.4517 mL	24.9035 mL
	5 mM	0.4981 mL	2.4903 mL	4.9807 mL
	10 mM	0.2490 mL	1.2452 mL	2.4903 mL

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

BIOLOGICAL ACTIVITY

Description

Ivacaftor-d_9 is a potent CFTR modulator and exhibits an EC50 value of 255 nM for CFTR potentiation in G551D/F508del HBE Cells. Ivacaftor-D9 acts as an orally active and improved deuterated Ivacaftor analog for cystic fibrosis research[1].

In Vivo

In PK study, CTP-656 (oral gavage; 10 mg/kg; single dose) shows a superior pharmacokinetic profile, The plasma levels of compound were measured over 72 hours,exhibits the parameters C_{max}, $AUC_{0\text{-}24\ hr}$, C_{24hr} and $t_{1/2}$ of 1970 ng/ml (15%), 24,260 hr*ng/ml(17%), 413 ng/ml (19%) and 13.9 hours, respectively in Male Sprague-Dawley rats.

CTP-656 (oral gavage; 3 mg/kg; single dose) exhibits the parameters C_{max}, $AUC_{0\text{-}24\ hr}$, C_{24hr} and $t_{1/2}$ of 3643 ng/ml (9%), 49,782 hr*ng/ml(31%), 1418 ng/ml (31%) and 22.8 hours, respectively in Male Beagle Dogs (3.0 mg/kg).

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

REFERENCES

[1]. Scott L Harbeson, et al. Altering Metabolic Profiles of Drugs by Precision Deuteration 2: Discovery of a Deuterated Analog of Ivacaftor with Differentiated

Pharmacokinetics for Clinical Development. J Pharmacol Exp Ther. 2017 Aug;362(2):359-367.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA