

Ivacaftor-D9

Chemical Properties

CAS No. : 1413431-07-8

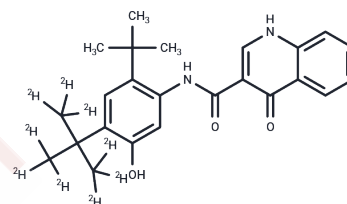
Formula: C₂₄H₁₉D₉N₂O₃

Molecular Weight: 401.55

Store at low temperature

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	Ivacaftor-D9 is transmembrane conductance regulator (CFTR) channel activator, is used potentially for the treatment of cystic fibrosis.
Targets(IC50)	CFTR
In vivo	In pharmacokinetic studies, male Sprague-Dawley rats exhibited favorable pharmacokinetic profiles following a single oral dose of 10 mg/kg Ivacaftor-D9. Plasma drug concentrations were monitored for 72 hours, with the main parameters as follows: C _{max} 1970 ng/mL (CV 15%), AUC _{0-24h} 24260 h·ng/mL (CV 17%), C _{24h} 413 ng/mL (CV 19%), and t _{1/2} 13.9 h. In male beagle dogs, following a single oral dose of 3 mg/kg Ivacaftor-D9, the corresponding pharmacokinetic parameters were: C _{max} 3643 ng/mL (CV 9%), AUC _{0-24h} 49782 h·ng/mL (CV 31%), C _{24h} 1418 ng/mL (CV 31%), and t _{1/2} 22.8 h.

Solubility Information

Solubility	DMSO: 40 mg/mL (99.61 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.4903 mL	12.4517 mL	24.9035 mL
5 mM	0.4981 mL	2.4903 mL	4.9807 mL
10 mM	0.249 mL	1.2452 mL	2.4903 mL
50 mM	0.0498 mL	0.249 mL	0.4981 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

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.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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