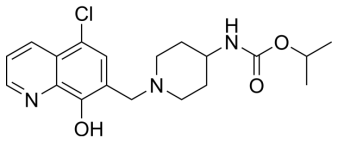
ML418

Cat. No.:	HY-122697
CAS No.:	1928763-08-9
Molecular Formula:	$C_{19}H_{24}ClN_3O_3$
Molecular Weight:	377.87
Target:	Potassium Channel
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 : 20.83 mg/mL (55.12 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.6464 mL	13.2321 mL	26.4641 mL
5 mM	0.5293 mL	2.6464 mL	5.2928 mL
10 mM	0.2646 mL	1.3232 mL	2.6464 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 (5.50 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (5.50 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

ML418 is a potent, selective and CNS penetrating Kir7.1 potassium channel blocker. ML418 inhibits Kir7.1 with an IC_{50} value of 0.31 μM. ML418 can be used for the research of neurological, cardiovascular, endocrine and muscle disorders.

IC_{50} & Target

IC50: 0.31 μM (Kir7.1)[1]

In Vitro

ML418 has inhibitory activity for Kir7.1 dose-dependently with an IC_{50} value of 0.31 μM[1].
ML418 has selectivity for Kir7.1 and Kir6.2/SUR1 with IC_{50} values of 1.3 μM and 1.9 μM, respectively[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

ML418 (i.p.; 30 mg/kg) has good PK effect, excellent CNS penetration and favorable CNS distribution[1].

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

Animal Model:	Rats and Mice[1]
Dosage:	30 mg/kg
Administration:	Intraperitoneal
Result:	Showed a suitable PK profile (Cmax = 0.20 μM and Tmax = 3 h), excellent CNS penetration with a mouse brain: Kp of 10.9, brain (323.9 ng/g): plasma (29.5 ng/mL).

REFERENCES

[1]. ML418, et al. ML418: The First Selective, Sub-Micromolar Pore Blocker of Kir7.1 Potassium Channels. ACS Chem Neurosci. 2016 Jul 20;7(7):1013-23.

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