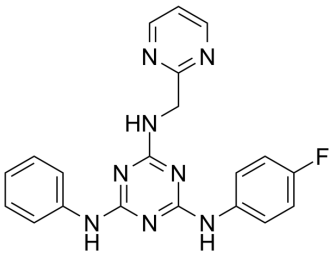
ASP2905

Cat. No.:	HY-122015
CAS No.:	792184-90-8
Molecular Formula:	$C_{20}H_{17}FN_8$
Molecular Weight:	388.4
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 : 100 mg/mL (257.47 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.5747 mL	12.8733 mL	25.7467 mL
	5 mM	0.5149 mL	2.5747 mL	5.1493 mL
	10 mM	0.2575 mL	1.2873 mL	2.5747 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: ≥ 2.5 mg/mL (6.44 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (6.44 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

ASP2905 is a potent and selective potassium channel Kv12.2 inhibitor encoded by the Kcnh3/BEC1 gene. ASP2905 can cross the blood-brain barrier and has antipsychotic activities[1][2].

In Vitro

ASP2905 potently inhibits potassium currents in CHO cells expressing KCNH3 (IC_{50} of 9.0 nM). ASP2905 (≤10 μM) minimally bound with low affinities to 55 transmembrane proteins. ASP2905 (0.1 μM, 1 μM) decreases the frequency of spontaneous inhibitory postsynaptic currents in cultured rat hippocampal neurons[1].

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

In Vivo

ASP2905 treatment inhibits hyperlocomotion induced by Phencyclidine. And significantly ameliorates Phencyclidine-induced prolongation of immobility time in mice subjected to the forced swimming test[2].

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

Animal Model:	Male ddY mice (aged 4-5 weeks) injected with Phencyclidine hydrochloride (PCP)[2]
Dosage:	0.01 mg/kg, 0.03 mg/kg, 0.1 mg/kg, 0.3 mg/kg
Administration:	Oral administration; once
Result:	Inhibited hyperlocomotion induced by Phencyclidine.

REFERENCES

[1]. Shinji Takahashi, et al. Neurochemical and neuropharmacological characterization of ASP2905, a novel potent selective inhibitor of the potassium channel KCNH3. Eur J Pharmacol. 2017 Sep 5;810:26-35.

[2]. Shinji Takahashi, et al. ASP2905, a specific inhibitor of the potassium channel Kv12.2 encoded by the Kcnh3 gene, is psychoactive in mice. Behav Brain Res. 2020 Jan 27;378:112315.

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