VU591 hydrochloride

Cat. No.: HY-108585

CAS No.: 1315380-70-1

Molecular Formula: $C_{16}H_{13}ClN_6O_5$

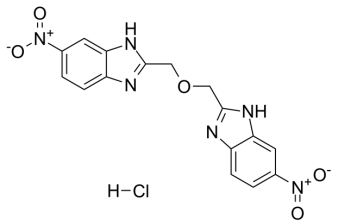
Molecular Weight: 404.76

Target: Potassium Channel

Pathway: Membrane Transporter/Ion Channel

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 : 16.67 mg/mL (41.18 mM; Need ultrasonic)

H_2O : < 0.1 mg/mL (ultrasonic;warming;heat to 60°C) (insoluble)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.4706 mL	12.3530 mL	24.7060 mL
5 mM	0.4941 mL	2.4706 mL	4.9412 mL
10 mM	0.2471 mL	1.2353 mL	2.4706 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1.25 mg/mL (3.09 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

VU591 hydrochloride is a potent, selective renal outer medullary potassium channel (ROMK or Kir1.1) inhibitor, with an IC_{50} of 0.24 μM. VU591 hydrochloride can be used for neurological research with HY-108585A (the equivalent of VU591 hydrochloride)[1].

IC_{50} & Target

IC50: 0.24 μM (ROMK)[1].

In Vitro

VU591 hydrochloride is a selective ROMK inhibitor and a ROMK channel pore blocker. VU591 can bind serum protein and has high metabolic stability[1].

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

In Vivo

VU591 hydrochloride (i.c.v.; 1.842 μg) significantly decreases the immobile time in TST[2].

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Animal Model:	Male ICR mice[2]
Dosage:	1.842 μg
Administration:	i.c.v.; 1.842 μg
Result:	Showed antidepressive effect in the tail suspension test (TST).

REFERENCES

[1]. Masayoshi Okada, et al. Antidepressive effect of an inward rectifier K+ channel blocker peptide, tertiapin-RQ. PLoS One. 2020 Nov 13;15(11):e0233815.

[2]. Bhave G, et al. Development of a selective small-molecule inhibitor of Kir1.1, the renal outer medullary potassium channel. Mol Pharmacol. 2011 Jan;79(1):42-50.

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