Paxilline

Cat. No.: HY-N6778

CAS No.: 57186-25-1

Molecular Formula: $C_{27}H_{33}NO_4$

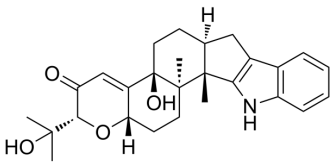
Molecular Weight: 435.56

Target: Calcium Channel; Potassium Channel

Pathway: Membrane Transporter/Ion Channel; Neuronal Signaling

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (229.59 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.2959 mL	11.4795 mL	22.9590 mL
	5 mM	0.4592 mL	2.2959 mL	4.5918 mL
	10 mM	0.2296 mL	1.1479 mL	2.2959 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: ≥ 6.25 mg/mL (14.35 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.74 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.74 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Paxilline is an indole alkaloid mycotoxin from Penicillium paxilli, acts as a potent BK channels inhibitor by an almost exclusively closed-channel block mechanism. Paxilline also inhibits the sarco/endoplasmic reticulum Ca^{2+} ATPase (SERCA) with IC_{50}s between 5 μM and 50 μM for differing isoforms. Paxilline possesses significant anticonvulsant activity[1][2][3].

IC_{50} & Target

IC50: 5-50 μM (SERCA)[2], BK channel[1]

CUSTOMER VALIDATION

- Nat Commun. 2023 Dec 12;14(1):8255.
- J Clin Invest. 2024 Jul 2:e176328.
- Biomed Pharmacother. 2022 Jan 17;147:112641.
- J Cell Physiol. 2021 Aug;236(8):5818-5831.
- Cell Calcium. 2022 Jun;104:102571.

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REFERENCES

[1]. Zhou Y, et al. Paxilline inhibits BK channels by an almost exclusively closed-channel block mechanism. J Gen Physiol. 2014 Nov;144(5):415-40.

[2]. Bilmen JG, et al. The mechanism of inhibition of the sarco/endoplasmic reticulum Ca2+ ATPase by paxilline. Arch Biochem Biophys. 2002 Oct 1;406(1):55-64.

[3]. Sheehan JJ, et al. Anticonvulsant effects of the BK-channel antagonist paxilline. Epilepsia. 2009 Apr;50(4):711-20.

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