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Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

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See the following pages for more information!

Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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Ca2+ channel agonist 1

Cat. No.: HY-41076

CAS No.: 1402821-24-2

Molecular Formula: $C_{19}H_{26}N_6O$

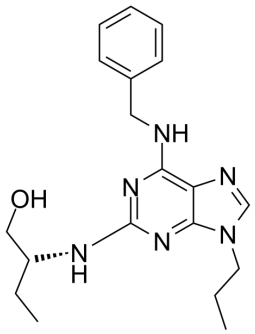
Molecular Weight: 354.45

Target: Calcium Channel; CDK

Pathway: Membrane Transporter/Ion Channel; Neuronal Signaling; Cell Cycle/DNA Damage

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 : 50 mg/mL (141.06 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.8213 mL	14.1064 mL	28.2127 mL
	5 mM	0.5643 mL	2.8213 mL	5.6425 mL
	10 mM	0.2821 mL	1.4106 mL	2.8213 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 (7.05 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (7.05 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Ca^{2+} channel agonist 1 is an agonist of N-type Ca^{2+} channel and an inhibitor of Cdk2, with EC_{50}s of 14.23 μM and 3.34 μM, respectively, and is used as a potential treatment for motor nerve terminal dysfunction.

IC_{50} & Target

CDK2	N-type calcium channel
3.34 μM (EC50)	14.23 μM (EC50)

In Vitro

Ca^{2+} channel agonist 1 (Compound 13d) is an agonist of N-type Ca^{2+} channel and an inhibitor of Cdk2, with EC_{50}s of 14.23 μM and 3.34 μM, respectively. Ca^{2+} channel agonist 1 exhibits a ca. 2-fold increased agonism and a 22-fold decreased cdk2 kinase activity versus the standard, (R)-roscovitine[1].

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

PROTOCOL

Cell Assay [1]

Briefly, the pipet solution consists of 70 nM Cs_2SO_4, 60 mM CsCl, 1 mM $MgCl_2$, and 10 mM HEPES at pH 7.4. Cultured cells are bathed in a saline composed of 130 mM choline chloride (ChCl), 10 mM tetraethylammonium chloride (TEA-Cl), 2 mM $CaCl_2$, 1 mM $MgCl_2$, and 10 mM HEPES at pH 7.4. Patch pipettes are fabricated from borosilicate glass, and capacitive currents and passive membrane responses to voltage commands are subtracted. Currents are amplified by an amplifier, filtered at 5 kHz, and digitized at 10 kHz for subsequent analysis. A liquid junction potential of −11.3 mV is subtracted during recordings. To measure effects on calcium channel tail currents, the tail current integral is measured before and after application of a derivative (including Ca^{2+} channel agonist 1), with the integral of each trace being normalized to its peak.

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

REFERENCES

[1]. Liang M, et al. Synthesis and biological evaluation of a selective N- and p/q-type calcium channel agonist. ACS Med Chem Lett. 2012 Oct 1;3(12):985-990.

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