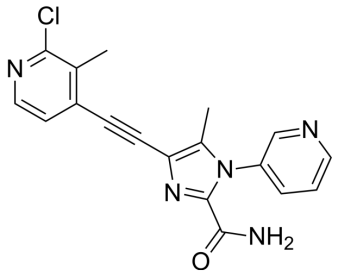
RO-275

Cat. No.:	HY-160505
CAS No.:	2648837-04-9
Molecular Formula:	$C_{18}H_{14}ClN_5O$
Molecular Weight:	351.79
Target:	HCN Channel
Pathway:	Membrane Transporter/Ion Channel
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	RO-275 (compound 29) is a potent, selective and orally active HCN1 inhibitor with IC_{50} values of 0.046, 14.3, 4.6, 13.9 μM for HCN1, HCN2, HCN3, HCN4, respectively. RO-275 rescues decremented working memory. RO-275 has the potential for the research of cognitive dysfunction in brain disorder[1][2].
IC_{50} & Target	IC_{50}: 0.046 μM (HCN1); 14.3 μM (HCN2); 4.6 μM (HCN3); 13.9 μM (HCN4)[1]
In Vivo	RO-275 (3, 10, 30 mg/kg; i.p.) rescues decremented working memory in rats[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male Sprague Dawley rats[2]
Dosage:	3, 10, 30 mg/kg
Administration:	I.p.
Result:	Improved performance in a translationally relevant touchscreen task of working memory (WM), tended to improve performance, but only at the longest delay of 6 s at the 10 mg/kg dose level, and led to a significant reduction in incorrect trials at 30 mg/kg in trial-unique, delayed non-matching-to-location (TUNL).

REFERENCES

[1]. Bjoern Bartels, et al. Alkynyl-(heteroaryl)-carboxamide hcn1 inhibitors. WO2021110574A1.

[2]. Harde E, et al. Selective and brain-penetrant HCN1 inhibitors reveal links between synaptic integration, cortical function, and working memory. Cell Chem Biol. 2024 Mar 21;31(3):577-592.e23.

Caution: Product has not been fully validated for medical applications. For research use only.

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