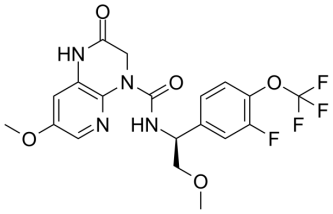
TAK-915

Cat. No.:	HY-103493
CAS No.:	1476727-50-0
Molecular Formula:	$C_{19}H_{18}F_4N_4O_5$
Molecular Weight:	458.36
Target:	Phosphodiesterase (PDE)
Pathway:	Metabolic Enzyme/Protease
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 : 7.5 mg/mL (16.36 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.1817 mL	10.9085 mL	21.8169 mL
	5 mM	0.4363 mL	2.1817 mL	4.3634 mL
	10 mM	0.2182 mL	1.0908 mL	2.1817 mL

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

BIOLOGICAL ACTIVITY

Description

TAK-915 is a potent, selective, brain-penetrant and orally active phosphodiesterase 2A (PDE2A) inhibitor with an IC_{50} of 0.61 nM. TAK-915 is >4100-fold more selectivity for PDE2A than PDE1A. TAK-915 has the potential for neuropsychiatric and neurodegenerative disorders treatment[1][2].

IC_{50} & Target

PDE2A	PDE1A
0.61 nM (IC_{50})	2497 nM (IC_{50})

In Vivo

TAK-915 (3 mg/kg; oral administration; daily; for 4 days; male F344 rats) treatment significantly reduces escape latency in aged rats in the Morris water maze task[2].

TAK-915 (1, 3, and 10 mg/kg, p.o.) dose-dependently attenuates the non-selective muscarinic antagonist scopolamine-induced memory deficits in rats[2].

Oral dosing of TAK-915 (compound 36) (3 or 10 mg/kg) in mice produces a dose-dependent increase in 3',5'-cyclic guanosine monophosphate (cGMP) levels, with significant cGMP increases observed at a dose of 10 mg/kg[1].

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

Animal Model:	Male F344 rats (10-week-old and 26-month-old) bearing morris water maze task[2]
Dosage:	3 mg/kg
Administration:	Oral administration; daily; for 4 days
Result:	Significantly reduced escape latency in aged rats in the Morris water maze task.

REFERENCES

[1]. Mikami S, et al. Discovery of Clinical Candidate N-((1S)-1-(3-Fluoro-4-(trifluoromethoxy)phenyl)-2-methoxyethyl)-7-methoxy-2-oxo-2,3-dihydropyrido[2,3-b]pyrazine-4(1H)-carboxamide (TAK-915): A Highly Potent, Selective, and Brain-Penetrating Phosphodiester

[2]. Nakashima M, et al. TAK-915, a phosphodiesterase 2A inhibitor, ameliorates the cognitive impairment associated with aging in rodent models. Behav Brain Res. 2019 Dec 30;376:112192.

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