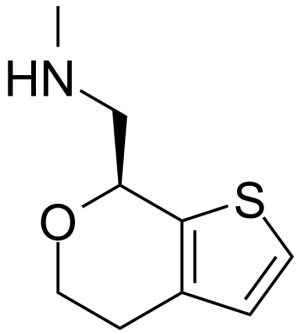
SEP-363856

Cat. No.:	HY-136109A
CAS No.:	1310426-33-5
Molecular Formula:	$C_9H_{13}NOS$
Molecular Weight:	183.27
Target:	5-HT Receptor
Pathway:	GPCR/G Protein; Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

SEP-363856 (SEP-856), an orally active and CNS active psychotropic agent with a unique, non-D2/5-HT2A mechanism of action, exerts its antipsychotic-like effects. SEP-363856 (SEP-856) has the potential for the study of schizophrenia[1].

IC_{50} & Target

TAAR1 0.140 μM (EC50)	5-HT_{1A} Receptor 2.3 μM (EC50)	5-HT_{1B} Receptor 15.6 μM (EC50)	5-HT_{1D} Receptor 0.262 μM (EC50)
5-HT_{2A} Receptor >10 μM (EC50)	5-HT_{2C} Receptor 30 μM (EC50)	5-HT_7 Receptor 6.7 μM (EC50)	

In Vitro

SEP-363856 (10 μM) shows >50% inhibition of specific binding at α_{2A}, α_{2B}, D_2, 5-HT_{1A}, 5-HT_{1B}, 5-HT_{1D}, 5-HT_{2A}, 5-HT_{2B}, 5-HT2C, and 5-HT_7 receptors[1].

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

In Vivo

SEP-363856 (0.3, 1 and 10 mg/kg, i.p.) is CNS active and exhibits a behavioral signature similar to known antipsychotic drugs [1].

SEP-363856 (0.3, 1 and 10 mg/kg, orally once) significantly reduces PCP-induced hyperactivity[1].

Oral SEP-363856 administration (1, 3 and 10 mg/kg) produces a dosedependent decrease in REM sleep, increase in latency to REM sleep and increase in cumulative wake (W) time[1].

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

Animal Model:	Acute treatment with phencyclidine (PCP), which induces robust hyperactivity in rodents [1].
Dosage:	0.3, 1 and 3 mg/kg.
Administration:	Orally once.
Result:	Resulted in a dose-dependent inhibition of PCP-induced hyperactivity responses in C57Bl/6J mice (1-way ANOVA $F_{(5, 59)} = 18.96$, $p < 0.0001$; Tukey's post-hoc test, $p < 0.05$) with a 50% effective dose (ED_{50}) of approximately 0.3 mg/kg.

Animal Model:	Male Sprague Dawley rats[1].

Dosage:	1, 2, and 5 mg/kg.
Administration:	I.V. injection. (Pharmacokinetic Analysis).
Result:	0.5 hours in mice and rats and maximum plasma concentrations reached within 6 ± 2.83 hours in monkeys. Penetrated mouse and rat brains after oral administration (10 mg/kg), with average brain-to-plasma AUC ratios of ~3 respectively.

CUSTOMER VALIDATION

- Cell. 2023 Nov 22;186(24):5347-5362.e24.
- Cell Host Microbe. 2023 Nov 8;31(11):1792-1803.e7.
- Front Pharmacol. 2023 Apr 21;14:1161964.

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REFERENCES

[1]. Dedic N, et al. SEP-363856, a Novel Psychotropic Agent with a Unique, Non-D2 Receptor Mechanism of Action. J Pharmacol Exp Ther. 2019 Oct;371(1):1-14.

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