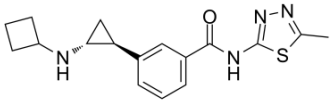
T-448 free base

Cat. No.:	HY-122635
CAS No.:	1597426-52-2
Molecular Formula:	$C_{17}H_{20}N_4OS$
Molecular Weight:	328.43
Target:	Histone Demethylase
Pathway:	Epigenetics
Storage:	Please store the product under the recommended conditions in the COA.



BIOLOGICAL ACTIVITY

Description	T-448 free base is a specific, orally active and irreversible inhibitor of **lysine-specific demethylase 1 (LSD1, an H3K4 demethylase)**, with an **IC_{50}** of 22 nM. T-448 free base enhances H3K4 methylation in primary cultured rat neurons[1].
IC_{50} & Target	IC50: 22 nM (LSD1)[1].
In Vitro	T-448 enhances the levels of H3K4 methylation, increased mRNA expression of neural plasticity-related genes including brain derived neurotrophic factor (Bdnf), and ameliorated learning dysfunction[1].

Cell Viability Assay

Cell Line:	Primary cultured rat neurons.
Concentration:	0-10 μM.
Incubation Time:	1 day treatment.
Result:	Increased Ucp2 H3K4me2 and Ucp2 mRNA significantly.

In Vivo

T-448 has minimal impact on the LSD1-GFI1B complex and a superior hematological safety profile in mice via the generation of a compact formyl-FAD adduct. T-448 increases brain H3K4 methylation and partially restored learning function in mice with NMDA receptor hypofunction[1].
T-448 increases H3K4 methylation in the brain without causing hematological side effects even at 100 mg/kg[1].

Animal Model:	NR1-hypo mice[1].
Dosage:	1, 10 mg/kg.
Administration:	Orally, 3 weeks.
Result:	Dose-dependently increased the H3K4me2 levels around Bdnf, Arc, and Fos genes inthe mouse hippocampus. Resulted in partial but statistically significant and dosedependent rescue effects on the rate of correct choices in NR1-hypo mice.

REFERENCES

[1]. Matsuda S, et al. T-448, a specific inhibitor of LSD1 enzyme activity, improves learning function without causing thrombocytopenia in mice. Neuropsychopharmacology. 2018 Dec 22.

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