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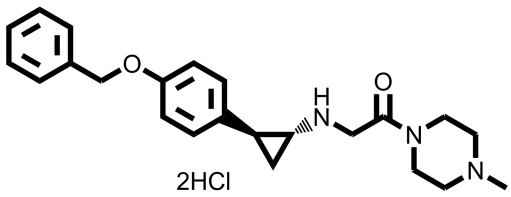
LSD1 Inhibitor – RN-1

Chemical Name: 2-((1R,2S)-2-(4-(benzyloxy)phenyl)cyclopropylamino)-1-(4-methylpiperazin-1-yl)ethanone dihydrochloride



Molecular Weight:	452.42
Formula:	$C_{23}H_{29}N_3O_2.2HCl$
Purity:	≥98%
CAS#:	1781835-13-9
Solubility:	DMSO up to 20 mM
Storage	Powder: 4 °C 1 year DMSO: 4 °C 3 months -20 °C 1 year

Biological Activity:

RN-1 is a potent, specific and brain-penetrant Lysine Specific Demethylase-1 (LSD1) inhibitor. It inhibits LSD1 in biochemical assay with an IC_{50} ~70 nM, and has weaker activity against monoamine oxidase proteins MAO-A and MAO-B with IC_{50} ~0.51 μM and 2.79 μM respectively. It exhibits good brain penetration and retention following systemic administration. RN-1 can abolish long-term memory formation without affecting short-term memory in the novel object recognition (NOR) mouse model. RN-1 could be a useful chemical probe to study the importance of reversible histone methylation in the function of the nervous system.

How to Use:

In vitro: RN-1 was used at 1 μM in vitro.

In vivo: RN-1 was administered by intraperitoneal injection once a day at a dose of 10-30 mg/kg to the novel object recognition (NOR) mouse model. RN-1 exhibits good brain penetration and retention.

Reference:

1. Neelamegam R, et al. Brain-penetrant LSD1 inhibitors can block memory consolidation. (2012) ACS Chem Neurosci. 3(2):120-128.