

## Mu opioid receptor antagonist 9

## Chemical Properties

CAS No. :	3058600-77-1
Formula:	C <sub>21</sub> H <sub>27</sub> ClN <sub>2</sub> O <sub>2</sub>
Molecular Weight:	374.91
Storage:	Powder: -20°C for 3 years   In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>

## Biological Description

Description	Muopioid receptor antagonist9 is a potent and highly selective $\mu$ -opioid receptor (MOR) antagonist with the ability to cross the blood-brain barrier, having a $K_i$ value of 77.3 nM. It exhibits selectivity for the $\kappa$ -opioid receptor (KOR) and $\delta$ -opioid receptor (DOR). This compound effectively blocks the analgesic effects of psychoactive substances and can reverse respiration depression induced by these substances in mice. Additionally, Muopioid receptor antagonist9 is applicable for research on opioid use disorder (OUD).
Targets(IC50)	Opioid Receptor
In vitro	Mu opioid receptor antagonist 9 (compound 53) inhibits calcium influx induced by DAMGO and psychoactive substances in mMOR-CHO cells, with IC <sub>50</sub> values of 33.6 $\mu$ M and 4.51 $\mu$ M, respectively.
In vivo	Mu opioid receptor antagonist 9 (1-10 mg/kg; subcutaneous injection; single dose) can inhibit the analgesic effect of psychoactive substances in the warm-water tail immersion pain model in mice. Additionally, when administered subcutaneously at doses of 1-32 mg/kg, 20 minutes post-psychoactive substance administration, it effectively reverses respiration depression induced by psychoactive substances in mice, as demonstrated in whole-body plethysmography studies.

### Preparing Stock Solutions

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	<b>1mg</b>	<b>5mg</b>	<b>10mg</b>
1 mM	2.6673 mL	13.3365 mL	26.6731 mL
5 mM	0.5335 mL	2.6673 mL	5.3346 mL
10 mM	0.2667 mL	1.3337 mL	2.6673 mL
50 mM	0.0533 mL	0.2667 mL	0.5335 mL

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Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

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