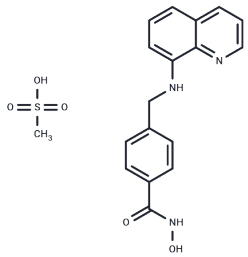
# Data Sheet (Cat.No.T61753)

TargetMol

## MPT0G211 mesylate

### Chemical Properties



CAS No. : 2151854-33-8

Formula: C18H19N3O5S

Molecular Weight: 389.43

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

### Biological Description

| | |
|---|---|
| Description | MPT0G211 mesylate is a powerful and selective HDAC6 inhibitor (IC50 = 0.291 nM), with high oral bioavailability. It exhibits remarkable selectivity for HDAC6 over other HDAC isoforms (>1000-fold selectivity). Additionally, MPT0G211 mesylate can effectively cross the blood-brain barrier. In preclinical studies using an Alzheimer's disease model, MPT0G211 mesylate has shown promising results in reducing tau phosphorylation and cognitive deficits. Furthermore, this compound exhibits anti-metastatic and neuroprotective effects, making it a potential candidate for anticancer interventions. [1] [2] [3]. |
| Targets(IC50) | Others,HDAC |
| In vitro | MPT0G211 mesylate, at a concentration of 0.1 μM, significantly reduces tau Ser396 phosphorylation in cells transfected with pCAX APP 695 and pRK5-EGFP-Tau P301L for 24 hours. It blocks the interaction between HDAC6 and Hsp90, leading to the proteasomal degradation of polyubiquitinated proteins, and inhibits tau phosphorylation by inactivating GSK3β. Furthermore, it diminishes tau Ser396 and Ser404 phosphorylation in SH-SY5Y and Neuro-2a cell lines under similar conditions. MPT0G211 mesylate also hinders the growth of MDA-MB-231 and MCF-7 cells with GI50 values of 16.19 and 5.6 μM, respectively. In AML cells, it enhances the cytotoxic effects of doxorubicin by disrupting DNA repair processes and activating BCL-XL-dependent apoptosis. |
| In vivo | MPT0G211 mesylate, administered at a dosage of 50 mg/kg orally on a daily basis for three months, significantly improved spatial memory impairment in triple transgenic mice (3×Tg-AD) carrying APP Swe and tau P301L mutant transgenes. In a separate experiment with female SCID mice bearing MDA-MB-231 cells, a 25 mg/kg dose given intraperitoneally once daily from the 73rd day after tumor injection notably reduced the number and weight of lung nodules. Furthermore, MPT0G211 mesylate treatment effectively reduced tau phosphorylation through the inhibition of GSK3β activity and increased Hsp90 acetylation. This led to decreased HDAC6/Hsp90 interaction and promoted the proteasomal breakdown of polyubiquitinated phosphorylated tau, showcasing a dual mechanism of action against neurodegenerative and tumor pathologies. |

Preparing Stock Solutions

| | 1mg | 5mg | 10mg |
|---|---|---|---|
| 1 mM | 2.5679 mL | 12.8393 mL | 25.6786 mL |
| 5 mM | 0.5136 mL | 2.5679 mL | 5.1357 mL |
| 10 mM | 0.2568 mL | 1.2839 mL | 2.5679 mL |
| 50 mM | 0.0514 mL | 0.2568 mL | 0.5136 mL |

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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