

Leucomethylene blue mesylate

Chemical Properties

CAS No. : 1236208-20-0

Formula: C₁₆H₁₉N₃S·2CH₄O₃S

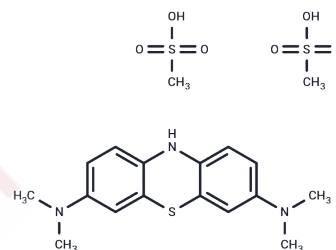
Molecular Weight: 477.62

Storage:

Keep away from direct sunlight, Keep away from moisture

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 | Leucomethylene blue mesylate (TRx0237 mesylate) is a second-generation tau protein aggregation inhibitor for the treatment of Alzheimer's disease (AD) and frontotemporal dementia. |
| Targets(IC50) | Beta Amyloid, Microtubule Associated |
| In vitro | Leucomethylene blue is a second-generation tau protein aggregation inhibitor for the treatment of Alzheimer's disease (AD) and frontotemporal dementia. It is a purified form of Methylene Blue, an old drug that predates the FDA and is being widely used in Africa for the treatment for malaria as well as for methemoglobinemia and other conditions[2]. An in vitro study showed the ability of Leucomethylene blue in disrupting PHFs (paired helical filaments) isolated from Alzheimer's Disease brain tissues at the concentration at 0.16 μM[1]. |
| In vivo | Leucomethylene blue dose-dependently rescues the learning impairment and restores behavioral flexibility in a spatial problem-solving water-maze task in L1 (minimum effective dose: 9 mg MT/kg for TRx0237) and corrects motor learning in L66 (effective doses: 4 mg MT/kg). It reduces the number of tau-reactive neurons, particularly in the hippocampus and entorhinal cortex in L1 and in a more widespread manner in L66[1]. |

Solubility Information

| | |
|------------|--|
| Solubility | Ethanol: < 1 mg/mL (insoluble or slightly soluble), H ₂ O: 87 mg/mL (182.15 mM), Sonication is recommended. DMSO: 88 mg/mL (184.25 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble) |
|------------|--|

Preparing Stock Solutions

| | 1mg | 5mg | 10mg |
|-------|-----------|------------|------------|
| 1 mM | 2.0937 mL | 10.4686 mL | 20.9371 mL |
| 5 mM | 0.4187 mL | 2.0937 mL | 4.1874 mL |
| 10 mM | 0.2094 mL | 1.0469 mL | 2.0937 mL |
| 50 mM | 0.0419 mL | 0.2094 mL | 0.4187 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.

Reference

Panza F, et al. Expert Opin Pharmacother. 2016, 17(4):457-61.

Liu Z, Wang F, Tang M, et al. Amyloid β and tau are involved in sleep disorder in Alzheimer's disease by orexin A and adenosine A(1) receptor. International Journal of Molecular Medicine. 2019, 43(1): 435-442

Gui W, Xu S, Dang Z, et al. In Vitro and in Vivo Effect of Mapk Signal Transduction Pathway Inhibitors on Echinococcus multilocularis. Journal of Parasitology. 2019 Feb;105(1):146-154.

LMTM. THERAPEUTICS overview.

Gui W, Xu S, Dang Z, et al. In Vitro and in Vivo Effect of Mapk Signal Transduction Pathway Inhibitors on Echinococcus multilocularis[J]. Journal of Parasitology. 2019 Feb;105(1):146-154.

Liu Z, Wang F, Tang M, et al. Amyloid β and tau are involved in sleep disorder in Alzheimer's disease by orexin A and adenosine A (1) receptor[J]. International journal of molecular medicine. 2019 Jan;43(1):435-442.

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