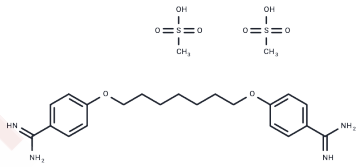
Data Sheet (Cat.No.T11553)

TargetMol

Heptamidine dimethanesulfonate

Chemical Properties



CAS No. : 161374-55-6

Formula: C23H36N4O8S2

Molecular Weight: 560.68

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	Heptamidine dimethanesulfonate (SBi4211 dimethanesulfonate) serves as a potent inhibitor related to Pentamidine, targeting the calcium-binding protein S100B with a dissociation constant (Kd) of 6.9 μM. It demonstrates specificity by preferentially killing melanoma cells overexpressing S100B compared to cells lacking this protein. Additionally, Heptamidine is employed as a valuable research tool in the study of Myotonic dystrophy (DM).
Targets(IC50)	Others
In vitro	Heptamidine rescues the mis-splicing of minigene reporters in a HeLa cell DM1 model (EC50: 15 μM). Heptamidine (20 μM) does not decrease CUG levels significantly when compares to Propamidine and Pentamidine, and exhibits cytotoxic at concentrations above 17.5 μM in HeLa cells expressing 960 CUG repeats [2].
In vivo	Heptamidine (i.p.; 20 or 30 mg/kg; 7 days) causes a dose-dependent reduction of exon 7a inclusion in HSALR mice, returning to wild type levels (6±1%) when at 20 mg/kg dose, the myotonia is reduced from grade 3 to grade 1 (occasional myotonic discharge) or grade 0 at both 20 or 30 mg/kg [2].

Solubility Information

Solubility	H2O: 8.33 mg/mL (14.86 mM),Sonication is recommended. DMSO: 70 mg/mL (124.85 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (3.57 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.7835 mL	8.9177 mL	17.8355 mL
5 mM	0.3567 mL	1.7835 mL	3.5671 mL
10 mM	0.1784 mL	0.8918 mL	1.7835 mL
50 mM	0.0357 mL	0.1784 mL	0.3567 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

McKnight LE, et al. Structure-Based Discovery of a Novel Pentamidine-Related Inhibitor of the Calcium-Binding Protein S100B. ACS Med Chem Lett. 2012 Dec 13;3(12):975-979. Epub 2012 Sep 25.
Coonrod LA, et al. Reducing levels of toxic RNA with small molecules.ACS Chem Biol. 2013 Nov 15;8(11):2528-37.