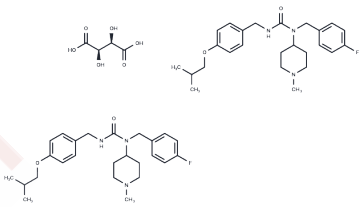
Data Sheet (Cat.No.T6946)

TargetMol

Pimavanserin tartrate

Chemical Properties



CAS No. : 706782-28-7

Formula: C50H68F2N6O4·C4H6O6

Molecular Weight: 1005.2

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	Pimavanserin tartrate is a potent 5-HT 2A receptor inverse agonist used to treat Parkinson's disease-related psychosis, with the most potent inhibitory activity on the NFAT signaling pathway.
Targets(IC50)	5-HT Receptor
In vitro	**METHODS**: The pharmacological effects of PVT on TNBC cells were evaluated at specific time points and different concentration ranges (1.25-20 μM). The short-term effects (24-72 hours) of PVT treatment on the proliferation of two TNBC cell lines, 4T1 and MDA-MB-231, were evaluated using MTT assay. **RESULTS** The half-maximal inhibitory concentration (IC50) values of PVT on 4T1 cell line at 24 hours, 48 hours and 72 hours were 6.77 μM, 1.94 μM and 1.46 μM, respectively, while the half-maximal inhibitory concentration (IC50) values for MDA-MB-231 were 9.65 μM, 4.24 μM and 2.31 μM, respectively. The inhibitory effect of PVT on the viability of 4T1 and MDA-MB-231 cells showed concentration dependence. However, PVT has a smaller inhibitory effect on the viability of normal human breast epithelial MCF-10A cells.[1]
In vivo	**METHODS**: Mice were inoculated with 1 × 105 luciferase-expressing 4T1 cells into the left peritoneal cavity. PVT (30 mg/kg) was administered daily by intraperitoneal injection. When the average tumor volume reached approximately 1000 mm3, the tumors were carefully excised and the wounds sutured. To monitor metastasis, a non-invasive in vivo imaging system was used to detect tumor metastasis. The data were collected and analyzed using Living Image® 4.7.2 software. **RESULTS** PVT mildly inhibited the growth of subcutaneous tumors in vivo without causing significant weight loss in the animals. [1] **METHODS**: U87 cells were subcutaneously implanted into nude mice to establish a GBM xenograft model. The mice were treated with Pimavanserin tartrate (10 mg/kg, orally, daily, for three weeks), and the tumor growth in the mice was observed. **RESULTS** Pimavanserin tartrate significantly inhibited tumor growth. [2]

Solubility Information

Solubility	Ethanol: 93 mg/mL (92.52 mM),Sonication is recommended. DMSO: 28.05 mg/mL (27.9 mM),Sonication is recommended. H2O: 92 mg/mL (91.52 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: 2.5 mg/mL (2.49 mM),Sonication is recommended. 10% DMSO+90% Saline: 6.25 mg/mL (6.22 mM),Solution. *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	0.9948 mL	4.9741 mL	9.9483 mL
5 mM	0.199 mL	0.9948 mL	1.9897 mL
10 mM	0.0995 mL	0.4974 mL	0.9948 mL
50 mM	0.0199 mL	0.0995 mL	0.199 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

Zhang Y, et al. Pimavanserin tartrate induces apoptosis and cytoprotective autophagy and synergizes with chemotherapy on triple negative breast cancer. Biomed Pharmacother. 2023 Dec;168:115665.
Liu ZZ, et al. Identification of pimavanserin tartrate as a potent Ca2+-calcineurin-NFAT pathway inhibitor for glioblastoma therapy. Acta Pharmacol Sin. 2021 Nov;42(11):1860-1874.
Ffytche DH, et al. The psychosis spectrum in Parkinson disease. Nat Rev Neurol. 2017 Feb;13(2):81-95.

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