

FM04

Chemical Properties

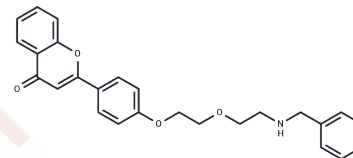
CAS No. : 1807320-40-6

Formula: C₂₆H₂₅N₃O₄

Molecular Weight: 415.48

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	FM04 is an orally active and highly potent inhibitor of P-glycoprotein (P-gp) with an EC ₅₀ value of 83 nM. FM04 can interact with Q1193 and I1115 in human P-gp nucleotide binding domain 2 (NBD2). Thereby disrupting the R262-Q1081-Q1118 interaction pocket and uncoupling the ICL2-NBD2 interaction, thereby inhibiting P-gp. FM04 can be used in the treatment of cancer and tumors.
Targets(IC ₅₀)	P-gp
In vitro	FM04 (100 μM) exhibits competition with its photoaffinity derivative XC4 in LCC6MDR cells.[1] FM04 inhibits P-glycoprotein with an EC ₅₀ =83 nM, where the EC ₅₀ value refers to the effective modulator concentration IC ₅₀ (=3.8 nM) that reduces paclitaxel (PTX) by half in the P-gp overexpressing cell line LCC6MDR.[1]

Solubility Information

Solubility	DMSO: 55 mg/mL (132.38 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.4069 mL	12.0343 mL	24.0685 mL
5 mM	0.4814 mL	2.4069 mL	4.8137 mL
10 mM	0.2407 mL	1.2034 mL	2.4069 mL
50 mM	0.0481 mL	0.2407 mL	0.4814 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

Liu Z, et al. Identification of Binding Sites in the Nucleotide-Binding Domain of P-Glycoprotein for a Potent and Nontoxic Modulator, the Amine-Containing Monomeric Flavonoid FM04. J Med Chem. 2023 Apr 25.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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