

MBL-II-141

Chemical Properties

CAS No. : 1353747-12-2
Formula: C₂₈H₂₃BrN₂O₅
Molecular Weight: 547.41
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	MBL-II-141 is a potent ABCG2 inhibitor with an IC ₅₀ of 0.11 μM. It inhibits the transport function of ABCG2 in a non-competitive manner, preventing ABCG2 from expelling substrates (such as Irinotecan) out of cells, thereby increasing the intracellular accumulation of the drug. MBL-II-141 does not affect ABCB1 (P-gp) or ABCC1 (MRP1) and exhibits very low cytotoxicity (IG ₅₀ > 100 μM). This compound is useful for studying tumor multidrug resistance (MDR).
Targets(IC ₅₀)	BCRP
In vivo	MBL-II-141, administered at 10 mg/kg through intraperitoneal injections three times a week for a period of 50-87 days, in combination with the anticancer drug Irinotecan (CPT-11), effectively suppresses the growth of 90% of freshly implanted ABCG2-positive tumors. A single dose of MBL-II-141 (10 mg/kg, intraperitoneal injection) reduces the total apparent clearance and biliary clearance of Irinotecan while significantly enhancing the exposure of Irinotecan and SN-38 in blood and brain tissue. Moreover, MBL-II-141, at doses ranging from 10-50 mg/kg administered either intraperitoneally or orally, exhibits a relatively high predicted LD ₅₀ (intraperitoneal: 290 mg/kg, oral: 1200 mg/kg), with experiments confirming no significant toxicity or tissue damage even at doses up to 50 mg/kg.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.8268 mL	9.1339 mL	18.2678 mL
5 mM	0.3654 mL	1.8268 mL	3.6536 mL
10 mM	0.1827 mL	0.9134 mL	1.8268 mL
50 mM	0.0365 mL	0.1827 mL	0.3654 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.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481