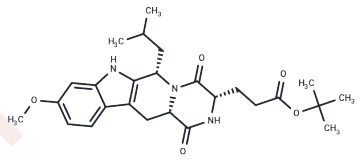
Data Sheet (Cat.No.TQ0186)

TargetMol

Ko 143

Chemical Properties



CAS No. : 461054-93-3

Formula: C26H35N3O5

Molecular Weight: 469.57

Storage: Store at low temperature
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	Ko 143 is a selective inhibitor of ATP-binding cassette sub-family G member 2 (ABCG2; BCRP).
Targets(IC50)	BCRP,ABC Transporter
In vitro	In HEK G2 cells and mouse G2 cells, Ko143 (10 nM) significantly decreases the IC50 of MTX. Ko143 (1-100 μM) metabolite does not inhibit the function of ABC transporters [1]. Reversal of drug resistance in SKF 104864A-selected mouse MEF3.8/T6400 cells and human IGROV1/T8 cells by Ko143 [2]. Ko143 inhibits BCRP-mediated transport of ZD 4522 in Madin-Darby Canine Kidney (MDCK) 2-BCRP421CC (wild type) cells and MDCK2-BCRP421AA (mutant type) cells [3].
In vivo	Ko143 (10 mg/kg, p.o.) increases the oral availability of SKF 104864A in mice [2].
Cell Research	Cells are plated at 400 or 1000/well in 96-well plates the night before the addition of drugs. A concentration series of the drug is applied along one plate axis and left for the duration of the assay. Plates are harvested after 4-5 days while untreated wells are still subconfluent. Relative cell proliferation is quantified with CyQuant or Sybr Green I fluorescent nucleic acid stains. Assays with human cell lines are performed in the presence of 0.1 μm PSC833 to inhibit confounding P-gp activity [2].
Animal Research	Oral toxicity of FTC analogs in mice is tested by mixing 50 mg/mL stocks in DMSO 1:1 with Tween 80 (polyoxyethylene sorbitan mono-oleate) and diluting with 5% w/v glucose such that the final volume administered by oral gavage is 10 μL/g of body weight. Pairs of mice are administered oral doses of 50 mg/kg Ko132, Ko134, Ko143, or vehicle under light methoxyflurane anesthesia. Final tests of 50 mg/kg Ko134 or Ko143 are performed on additional pairs of unanesthetized animals to observe any behavioral effects. Further, another pair of mice receive a higher dose of 100 mg/kg Ko134. For i.p. toxicity tests, the FTC analog stocks in DMSO are dispersed in at least 10 volumes of sterile corn oil such that the injected volume is 5 μL/g of body weight. After pilot tests at lower doses show no adverse effects, mice (4 per group) are administered vehicle or 10 mg/kg i.p. of Ko132, Ko134, or Ko143. The mice are observed continuously during the first hour after administration and then at increasing intervals for 2 weeks, after which they are sacrificed for histological examination of major organs and structures [2].

Solubility Information

Solubility	H2O: Insoluble, DMSO: 90 mg/mL (191.66 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: 3.3 mg/mL (7.03 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	2.1296 mL	10.648 mL	21.2961 mL
5 mM	0.4259 mL	2.1296 mL	4.2592 mL
10 mM	0.213 mL	1.0648 mL	2.1296 mL
50 mM	0.0426 mL	0.213 mL	0.4259 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

Weidner LD, et al. The Inhibitor Ko143 Is Not Specific for ABCG2. J Pharmacol Exp Ther. 2015 Sep;354(3):384-93.
OBI-992, a Novel TROP2-Targeted Antibody-Drug Conjugate, Demonstrates Antitumor Activity in Multiple Cancer Models
JD Allen et al. Potent and Specific Inhibition of the Breast Cancer Resistance Protein Multidrug Transporter in Vitro and in Mouse Intestine by a Novel Analogue of Fumitremorgin C. Mol. Cancer Ther. 2002, 1, 417-425.
Wen JH, et al. Effect of Ursolic Acid on Breast Cancer Resistance Protein-mediated Transport of ZD 4522 In Vivo and Vitro. Chin Med Sci J. 2015 Dec;30(4):218-25.
Hou J, et al. Quantitative determination and pharmacokinetic study of the novel anti-Parkinson's disease candidate drug FLZ in rat brain by high performance liquid chromatography-tandem mass spectrometry. J Pharm Biomed Anal. 2012 Jul;66:232-9.
Liu K, et al. Metabolism of KO143, an ABCG2 inhibitor. Drug Metab Pharmacokinet. 2017 Aug;32(4):193-200.