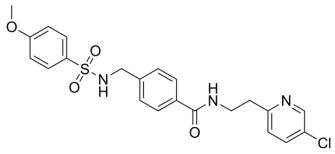
YU238259

Cat. No.:	HY-19977
CAS No.:	1943733-16-1
Molecular Formula:	$C_{22}H_{22}ClN_3O_4S$
Molecular Weight:	459.95
Target:	DNA-PK
Pathway:	Cell Cycle/DNA Damage; PI3K/Akt/mTOR
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 110 mg/mL (239.16 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.1741 mL	10.8707 mL	21.7415 mL
	5 mM	0.4348 mL	2.1741 mL	4.3483 mL
	10 mM	0.2174 mL	1.0871 mL	2.1741 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.75 mg/mL (5.98 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

YU238259 is an inhibitor of homology-dependent DNA repair (HDR), used for cancer research.

IC_{50} & Target

HDR[1]

In Vitro

YU238259 is an inhibitor of homology-dependent DNA repair, with no effect on PARP activity. YU238259 shows cytotoxicity in BRCA2-deficient cells, with a low LD_{50} of 8.5 μM. YU238259 (0-5 μM) causes a potent, dose-dependent decrease in HDR efficiency in U2OS DR-GFP or U2OS EJ5-GFP cells, but with no effect on NHEJ frequency. YU238259 (0-10 μM) exhibits synthetic lethality with loss of frequently mutated tumor suppressors, and shows synergism with radiotherapy (IR) and DNA-damaging chemotherapy that is potentiated by BRCA2 loss[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

YU238259 (3 mg/kg, i.p.) inhibits the growth of BRCA2-deficient tumor xenografts in nude mice[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay [1]	U2OS reporter cell lines (DR-GFP or EJ5-GFP) are pretreated in triplicate with varying concentrations of YU238259 for 24 h, after which 4 μg of SCE-I plasmid is transfected into 1×10^6 cells/replicate using an Amaxa Nucleofector. Transfected cells are reseeded on 6-well plates and cultured with YU238259 for an additional 72 h. The percentage of GFP-positive cells is quantified by flow cytometry. Data analysis is performed using FlowJo software. Error bars represent the standard deviation [1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration [1]	069(nu)/070(nu/$^+$) athymic nude mice, at 4-5 weeks age, are injected subcutaneously with 3×10^6 DLD-1 or DLD-1 BRCA2-KO cells suspended in 100 μL PBS. Tumor take rate is >80%. When tumors reach 100 mm^3 geometric mean volume, the mice are injected with 3 mg/kg YU238259 or its 3:1 DMSO:PBS vehicle, or 5 mg/kg YU128440 or its 1:19 DMSO:PBS vehicle (IP, 100 μL total in each case). Treatment is repeated 3×/week (Mon/Wed/Fri) for a total of 12 doses of YU238259 and 4 doses of YU128440. Tumor growth is assessed by external caliper. Mice are euthanized when individual tumor volumes exceed 1000 mm^3[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Stachelek GC, et al. YU238259 Is a Novel Inhibitor of Homology-Dependent DNA Repair That Exhibits Synthetic Lethality and Radiosensitization in Repair-Deficient Tumors. Mol Cancer Res. 2015 Oct;13(10):1389-97.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA