GLUT4-IN-2

Cat. No.: HY-146980

CAS No.: 2454113-83-6

Molecular Formula: $C_{17}H_{11}N_3O_4S_2$

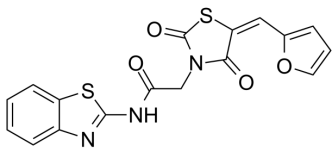
Molecular Weight: 385.42

Target: Apoptosis; GLUT

Pathway: Apoptosis; Membrane Transporter/Ion Channel

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (259.46 mM; ultrasonic and warming and heat to 80°C)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.5946 mL	12.9729 mL	25.9457 mL
	5 mM	0.5189 mL	2.5946 mL	5.1891 mL
	10 mM	0.2595 mL	1.2973 mL	2.5946 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: 2.5 mg/mL (6.49 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

GLUT4-IN-2 is a potent and selective GLUT4 inhibitor with IC_{50}s of 11.4 μM and 6.8 μM for GLUT1 and GLUT4, respectively. GLUT4-IN-2 induces cell apoptosis and cell cycle arrest at G0/G1phase. GLUT4-IN-2 shows potent antitumor activity[1].

IC_{50} & Target

GLUT1	GLUT4
11.4 μM (IC_{50})	6.8 μM (IC_{50})

In Vitro

GLUT4-IN-2 (compound F18) induces cell apoptosis and ell cycle arrest at G0/G1phase in CME cells[1].
GLUT4-IN-2 (10 μM; 6 h) decreases the expression of mTOR and CDK2, but increases the expression of GRP78, and cleaved caspase 3 proteins [1].

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

Cell Viability Assay[1]

Cell Line:	CME, K562, KCL-22, MB-231, HS-27 cells
Concentration:	1-100 μM
Incubation Time:	48 h
Result:	Showed potent cytotoxicity with cytotoxic concentration 50% (CC_{50}) of 1.7, 91.9, 15.3, 45.1, 44.0 μM for CME, K562, KCL-22, MB-231, HS-27 cells, respectively.

Apoptosis Analysis[1]

Cell Line:	CEM cells
Concentration:	1.7 μM
Incubation Time:	24 h
Result:	Induced cell apoptosis with the percentage of apoptotic cells in the late and early apoptosis region was 55.87% and 1.38%, respectively.

Cell Cycle Analysis[1]

Cell Line:	CEM cells
Concentration:	10, 25, 50 μM
Incubation Time:	72 h
Result:	Induced cell cycle arrest at G0/G1phase in a dose-dependent manner.

Western Blot Analysis[1]

Cell Line:	CEM cells
Concentration:	10 μM
Incubation Time:	6 h
Result:	Decreased the phosphorylation of mTOR and CDK2 proteins and increased the expression of GRP78, and cleaved caspase 3.

Cell Cytotoxicity Assay[1]

Cell Line:	CEM cells
Concentration:	2.5-100 μM
Incubation Time:	48 h
Result:	Showed cytotoxicity with the IC_{50}s of 1.7, 187.2 μM for CEM, WBCs cells respectively.

In Vivo

GLUT4-IN-2 (50 mg/kg; i.p. on day 1–5, 8–12, 15–18) shows antitumor activity in CEM xenograft model[1].

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

Animal Model:	8–10 weeks, SCID mice (CEM xenograft tumor) [1]
Dosage:	50 mg/kg

Administration:	I.p.; administered on day 1-5, 8-12, 15-18
Result:	Showed potent antitumor activity in vivo.

REFERENCES

[1]. Tilekar K,et al. Structure guided design and synthesis of furyl thiazolidinedione derivatives as inhibitors of GLUT 1 and GLUT 4, and evaluation of their anti-leukemic potential. Eur J Med Chem. 2020 Sep 15;202:112603.

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