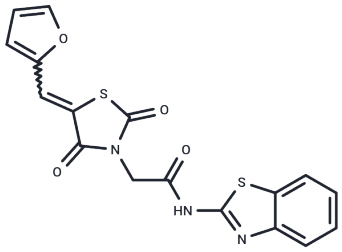
Data Sheet (Cat.No.T61695)

TargetMol
YOUR TARGET MOLECULES

GLUT4-IN-2

Chemical Properties



CAS No. : 2454113-83-6

Formula: C17H11N3O4S2

Molecular Weight: 385.42

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	GLUT4-IN-2, a selective inhibitor specifically targeting GLUT4, demonstrates potent antitumor activity with IC50 values of 6.8 μM for GLUT4 and 11.4 μM for GLUT1. It effectively induces cell apoptosis and arrests the cell cycle at the G0/G1 phase [1].
In vitro	GLUT4-IN-2 (referred to as compound F18) is shown to trigger apoptosis (programmed cell death) and halt the cell cycle at the G0/G1 phase in CME cells, according to study [1]. At a concentration of 10 μM over 6 hours, this compound notably reduces the levels of mTOR and CDK2 proteins, while elevating the levels of GRP78 and cleaved caspase 3 proteins. Additionally, cell viability assays conducted on various cell lines (CME, K562, KCL-22, MB-231, HS-27) with concentrations ranging from 1-100 μM over 48 hours demonstrated significant cytotoxic effects with CC50 values (the concentration causing 50% cytotoxicity) indicating potent cytotoxicity across these cell types. Apoptosis analysis further confirmed the compound's efficacy in inducing apoptosis in CEM cells at a concentration of 1.7 μM within 24 hours, disclosing a high percentage of cells undergoing both early and late apoptosis. Moreover, cell cycle analysis highlighted the compound's ability to dose-dependently induce cell cycle arrest at the G0/G1 phase. Western blot analysis corroborated these findings by showing a decrease in mTOR and CDK2 phosphorylation and an increase in GRP78 and cleaved caspase 3 expression at 10 μM over 6 hours in CEM cells. Lastly, cell cytotoxicity assays confirmed the cytotoxic nature of GLUT4-IN-2 on CEM cells and white blood cells (WBCs), with IC50 values (the concentration inhibiting cell growth by 50%) of 1.7 and 187.2 μM respectively.
In vivo	GLUT4-IN-2, administered intraperitoneally (i.p.) at a dosage of 50 mg/kg on days 1-5, 8-12, and 15-18, demonstrates potent antitumor activity in an in vivo CEM xenograft model utilizing 8-10 week old SCID mice with CEM xenograft tumors.

Preparing Stock Solutions

	1mg	5mg	10mg
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
50 mM	0.0519 mL	0.2595 mL	0.5189 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.