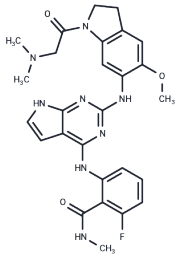
Data Sheet (Cat.No.T3079)

TargetMol

GSK1838705A

Chemical Properties



CAS No. : 1116235-97-2

Formula: C27H29FN8O3

Molecular Weight: 532.57

Appearance: no data available

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

Biological Description

Description	GSK1838705A is an effective IGF-1R inhibitor (IC50: 2.0 nM), modestly potent to IR (IC50: 1.6 nM) and ALK (IC50: 0.5 nM), respectively, and little inhibition to other protein kinases.
Targets(IC50)	ALK,IGF-1R,JNK,S6 Kinase
In vitro	In mice carrying COLO 205 tumors, GSK1838705A (30 mg/kg) inhibits 80% of tumor growth. Additionally, GSK1838705A demonstrates antitumor activity in mice with HT29 or BxPC3 xenografts. In mice with NIH-3T3/LISN tumors, GSK1838705A (60 mg/kg, p.o.) suppresses 77% of tumor growth without significant weight loss. It also momentarily doubles blood glucose levels by inhibiting IR signaling at a dose of 60 mg/kg. Furthermore, GSK1838705A (60 mg/kg) inhibits growth in established Karpas-299 xenografts by 93%, with no adverse effects on rat weight.
In vivo	GSK1838705A effectively inhibits the phosphorylation of IGF-1R (IC50: 85 nM) and IR (IC50: 79 nM) induced by ligands in cells. It demonstrates significant antiproliferative effects on various cell lines derived from solid and hematological tumors, such as L-82, SUP-M2, SK-ES, and MCF-7 (EC50: 24/28/141/203 nM). GSK1838705A induces the accumulation of MCF-7 and NCI-H929 cells in the G1 (2N) phase of the cell cycle. Additionally, it inhibits ALK (Ki: 0.35 nM) and the proliferation of cells expressing the NPM-ALK fusion protein (EC50: 24-88 nM). GSK1838705A significantly suppresses the phosphorylation of NPM-ALK in Karpas-299 and SR-786 cells, though it exhibits moderate effects on the phosphorylation of STAT3.
Kinase Assay	Kinase Assays: Baculovirus-expressed glutathione S-transferase-tagged proteins encoding the intracellular domain of IGF-1R (amino acids 957-1367) and IR (amino acids 979-1382) are used for determinations of IC50s by a homogeneous time-resolved fluorescence assay. A filter binding assay is used for appKi determinations using activated IGF-1R and IR kinases. Expanded kinase-selectivity profiling of GSK1838705A is carried out by screening the compound in the KinaseProfiler panel.
Cell Research	Cells are seeded in 96-well dishes, incubated overnight at 37 °C, and treated with DMSO or GSK1838705A for 72 hours. For the NIH-3T3/LISN proliferation assays, cells are seeded on collagen-coated 96-well tissue culture plates and allowed to adhere for 24 hours. The medium is replaced with serum-free medium and the cells are treated with GSK1838705A for 2 hour. Cells are incubated for 72 hours after addition of IGF-I (30 ng/mL). Cell proliferation is quantified using the CellTiter-Glo Luminescent Cell Viability Assay. IC50s are determined from cytotoxicity curves using a four-parameter curve fit

software package (XLfit4(Only for Reference)

Solubility Information

Solubility	DMSO: 53.3 mg/mL (100.08 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.8777 mL	9.3884 mL	18.7769 mL
5 mM	0.3755 mL	1.8777 mL	3.7554 mL
10 mM	0.1878 mL	0.9388 mL	1.8777 mL
50 mM	0.0376 mL	0.1878 mL	0.3755 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.

Reference

Sabbatini P, et al. Mol Cancer Ther. 2009, 8(10), 2811-2820.