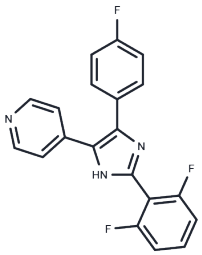
Data Sheet (Cat.No.T4645)

TA-01

Chemical Properties



CAS No. : 1784751-18-3

Formula: C20H12F3N3

Molecular Weight: 351.32

Appearance: no data available

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

Biological Description

Description	TA-01 is a potent inhibitor of CK1 and p38 MAPK, with IC50 values of 6.4 nM for CK1ε, 6.8 nM for CK1δ, and 6.7 nM for p38 MAPK.
Targets(IC50)	Casein Kinase,Autophagy,p38 MAPK
In vitro	TA-01, a potent inhibitor of CK1 and p38 MAPK, demonstrates IC50 values of 6.4 nM for CK1ε, 6.8 nM for CK1δ, and 6.7 nM for p38 MAPK. At a concentration of 5 μM, TA-01 is non-cytotoxic and completely inhibits cardiogenesis, although it induces cardiogenesis at lower concentrations[1].
Kinase Assay	Compounds (TA-01) are dissolved in DMSO?and tested at?10 μM concentrations?against a panel of 97 kinases, which are related to stem cell differentiation and cell signaling pathways. Kinome profiling is carried out by kinase profiling service[1].
Cell Research	HES-3, H7 and IPS are harvested and seeded at 1.1 × 106 cells/mL as EBs in ultra-low attachment 12-well plates in bSFS medium: DMEM supplemented with 2 mM l-glutamine, 0.182 mM sodium pyruvate, 1% non-essential amino acids, 0.1 mM β-mercaptoethanol, 5.6 mg/L transferrin, 20 μg/L sodium selenite, 0.25% (w/vol) Bovine Serum Albumin and 0.25% (w/vol) Hysoy. Cells are incubated at 37°C and 5% CO2 to allow EB formation. The medium is refreshed after 1 day and then every 2-3 days. Cells are stimulated with the respective compounds (TA-01) dissolved in DMSO (1 μL DMSO/mL of media) starting from day 1 or day 4, until day 8. CHIR99021 is applied for the first 24 h only[1].

Solubility Information

Solubility	DMSO: 9 mg/mL (25.62 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.8464 mL	14.232 mL	28.4641 mL
5 mM	0.5693 mL	2.8464 mL	5.6928 mL
10 mM	0.2846 mL	1.4232 mL	2.8464 mL
50 mM	0.0569 mL	0.2846 mL	0.5693 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

Laco F, et al. Cardiomyocyte differentiation of pluripotent stem cells with SB203580 analogues correlates with Wnt pathway CK1 inhibition independent of p38 MAPK signaling. J Mol Cell Cardiol. 2015 Mar;80:56-70.