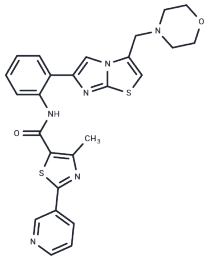
Data Sheet (Cat.No.T6679)

TargetMol

SRT 2104

Chemical Properties



CAS No. : 1093403-33-8

Formula: C26H24N6O2S2

Molecular Weight: 516.64

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	SRT 2104 (GSK2245840) is a selective and brain-permeable SIRT1 activator.
Targets(IC50)	Sirtuin
In vitro	SRT2104 reduces p65/RelA acetylation levels in C2C12 cells.[1]
In vivo	In male C57BL/6J mice, SRT2104 (100 mg/kg, p.o.) extends both mean and maximal lifespan of mice fed a standard diet, and enhances motor coordination, bone mineral density, and insulin sensitivity and decreased inflammation. Short-term SRT2104 treatment preserves bone and muscle mass in an experimental model of atrophy.[1] In Male N171-82Q HD mice, SRT2104 (diet containing 0.5% SRT2104) effectively penetrates the blood-brain barrier, attenuates brain atrophy, improves motor function, and extends survival.[2]
Kinase Assay	SIRT1 fluorescence polarization assay and HTS: In the SIRT1 FP assay, SIRT1 activity is monitored using a 20 amino acid peptide (Ac-Glu-Glu-Lys(biotin)-Gly-Gln-Ser-Thr-Ser-Ser-His-Ser-Lys(Ac)-Nle-Ser-Thr-Glu-Gly-Lys(MR121 or Tamra)-Glu-Glu-NH2) derived from the sequence of p53. The peptide is N-terminally linked to biotin and C-terminally modified with a fluorescent tag. The reaction for monitoring enzyme activity is a coupled enzyme assay where the first reaction is the deacetylation reaction catalyzed by SIRT1 and the second reaction is cleavage by trypsin at the newly exposed lysine residue. The reaction is stopped and streptavidin is added in order to accentuate the mass differences between substrate and product. The fluorescence polarization reaction conditions are as follows: 0.5 μM peptide substrate, 150 μM βNAD +, 0-10 nM SIRT1, 25 mM Tris-acetate pH 8, 137 mM Na-Ac, 2.7 mM K-Ac, 1 mM Mg-Ac, 0.05% Tween-20, 0.1% Pluronic F127, 10 mM CaCl 2 , 5 mM DTT, 0.025% BSA, and 0.15 mM nicotinamide. The reaction is incubated at 37°C and stopped by addition of nicotinamide, and trypsin is added to cleave the deacetylated substrate. This reaction is incubated at 37 °C in the presence of 1 μM streptavidin. Fluorescent polarization is determined at excitation (650 nm) and emission (680 nm) wavelengths.
Cell Research	Cells are cultured in low glucose Dulbecco's modified Eagle's medium (DMEM) supplemented with 10% fetal bovine serum and penicillin-streptomycin. Cells are treated with vehicle (0.1% DMSO) or 3?μM?SRT2104 for 24?h and then harvested for protein and Western blotting.(Only for Reference)

Solubility Information

Solubility	Ethanol: < 1 mg/mL (insoluble or slightly soluble), H2O: < 1 mg/mL (insoluble or slightly soluble), DMSO: 3.79 mg/mL (7.34 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.9356 mL	9.6779 mL	19.3558 mL
5 mM	0.3871 mL	1.9356 mL	3.8712 mL
10 mM	0.1936 mL	0.9678 mL	1.9356 mL
50 mM	0.0387 mL	0.1936 mL	0.3871 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.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Mercken EM, et al. Aging Cell. 2014, 13(5), 787-796.
Li M, Xu Q, Fan Q, et al.Small molecule SIRT1 activators counteract oxidative stress-induced inflammasome activation and nucleolar stress in retinal degeneration.International Immunopharmacology.2024, 142: 113167.
Jiang M, et al. Ann Clin Trans Neurol. 2014, 1(12), 1047-1052.
Milne JC, et al. Nature. 2007, 450(7170), 712-716.