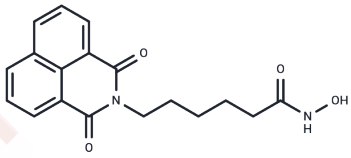
Data Sheet (Cat.No.T6980)

TargetMol

Scriptaid

Chemical Properties



CAS No. : 287383-59-9

Formula: C18H18N2O4

Molecular Weight: 326.35

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	Scriptaid (GCK1026) is an inhibitor of HDAC, and has a greater effect on acetylated H4 than H3.
Targets(IC50)	Apoptosis,HDAC,Autophagy,Influenza Virus
In vitro	Scriptaid (6 μM) results in a >100-fold increase in histone acetylation in PANC-1 cell. Scriptaid (8 μM) is not lethal to PANC-1 cell and has limited effects (80% survival) on MDAMB-468. Scriptaid increases the transcription of pCMVb, p6SBE-luc and p6MBE-luc independent of a positive inducer of transcription. Scriptaid is capable of inducing high expression of p6MBE-luc, pCMVb, and pUB6/V5-LacZ, driven by viral (SV40 and CMV) or human (ubiquitin c, UB6) promoters, which do not depend on the specificity of the enhancer (SBE versus MBE), the type of promoter (viral versus cellular), the product of the reporter gene (luciferase versus b-gal), nor on the integration status of the reporter construct. [1] Scriptaid induces high rates of somatic cell nuclear transfer (SCNT) oocytes development to the blastocyst stage and allowed full-term development (3.4, 4.2, 7.6, 6.8, and 4.1%) with all concentrations (50, 100, 250, 500, and 2000 nM respectively). Scriptaid improves the full-term development of cloned B6D2F1embryos in a dose-dependent manner with the maximum effect at 250 nM. Scriptaid enables the clone of all the important inbred mouse strains, such as C57BL/6, C3H/He, DBA/2, and 129/Sv. Scriptaid treatment enhances newly synthesized mRNA levels in cloned embryos. 250 nM Scriptaid treated for up to 48 h, does not inhibit the development of ICSI-fertilized embryos. [2] Scriptaid inhibits T. gondii tachyzoite proliferation with IC50 of 39 nM. Scriptaid (0.225 μM) completely protects the HS68 monolayers from T. gondii tachyzoite. [3] Scriptaid inhibits growth of ER negative cell lines, MDA-MB-231, MDA-MB-435 and Hs578t with IC50 of 0.5-1.0 μg/mL after 48 h treatment. 1 μg/ml Scriptaid treated for 48 h induces an accumulation of both acetylated H3 and acetylated H4 histone tail proteins, and a maximal of 20,000-fold increase of ER mRNA transcript. [4]
In vivo	Scriptaid elicits a dose-dependent decrease in lesion size (a maximal decrease of 45%) at 1.5 to 5.5 mg/kg and a concomitant attenuation in motor and cognitive deficits when delivered 30 minutes postinjury in a model of mode rate TBI. Comparable protection is achieved even when treatment is delayed to 12 h postinjury. The protection of motor and cognitive functions is long lasting, as similar improvements are detected 35 days postinjury. Scriptaid induces an increase in surviving neurons (42%), as well as the number/length of their processes within the CA3 region of the hippocampus and the pericontusional cortex. Scriptaid treatment prevents the decrease in phospho-AKT (p-

In vivo	AKT) and phosphorylated phosphatase and tensin homolog deleted on chromosome 10 (p-PTEN) induced by TBI in cortical and CA3 hippocampal neurons. [6] Scriptaid treatment (3.5 mg/kg) clearly inhibits tumor growth in a human breast cancer xenograft MDA-MB-231 model, reducing tumor volume by 75%. [4]
Kinase Assay	Immunoblotting assay of histone acetylation: PANC-1 cells are treated with 2 μg/mL of Scriptaid for 18 h in culture medium. Treated and untreated cells are harvested with trypsin-EDTA, washed with PBS, and resuspended in a protein sample buffer. Protein concentration is determined by BCA protein assay reagents. Fifty μg of proteins from each sample is loaded on a 12% denaturing polyacrylamide gel. Proteins are subsequently transferred to a nylon membrane using MilliblotGraphite Electroblotter I. The nylon membrane is incubated with rabbit antihuman acetyl-lysine antibody, followed by goat antirabbit antibody coupled to horseradish peroxidase, developed with SuperSignal substrates, and detected by film.
Cell Research	Cells are plated at a cell density of 5000 cells/well in 12 well plates and treated with Scriptaid for up to 3 days. Cells numbers are counted daily using a Coulter counter.(Only for Reference)

Solubility Information

Solubility	DMSO: 40 mg/mL (122.57 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (6.13 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.0642 mL	15.321 mL	30.6419 mL
5 mM	0.6128 mL	3.0642 mL	6.1284 mL
10 mM	0.3064 mL	1.5321 mL	3.0642 mL
50 mM	0.0613 mL	0.3064 mL	0.6128 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

Su GH, et al. Cancer Res, 2000, 60(12), 3137-3142.
Yang Y T, Yan B, Guo L N, et al.Scriptaid is a prospective agent for improving human asthenozoospermic sample quality and fertilization rate in vitro.Asian Journal of Andrology.2024: 10.4103.
Van Thuan N, et al. Reproduction, 2009, 138(2), 309-317.
Strobl JS, et al. J Parasitol, 2007, 93(3), 694-700.
Keen JC, et al. Breast Cancer Res Treat, 2003, 81(3), 177-186.
Takai N, et al. Int J Mol Med, 2006, 17(2), 323-329.
Janaki Ramaiah M, et al. Scriptaid cause histone deacetylase inhibition and cell cycle arrest in HeLa cancer cells: A study on structural and functional aspects. Gene. 2017 Sep 5;627:379-386.