

Product Data Sheet

Product Name: Scriptaid
Cat. No.: GC15315

Chemical Properties

Cas. No. 287383-59-9

Chemical Name 6-(1,3-dioxobenzo[de]isoquinolin-2-yl)-N-hydroxyhexanamide

SMILES C1=CC2=C3C(=C1)C(=O)N(C(=O)C3=CC=C2)CCCCC(=O)NO

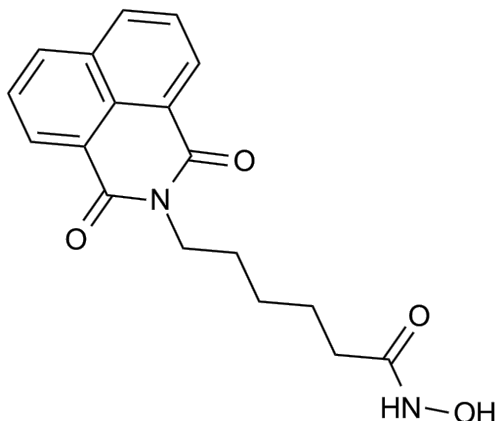
Formula $C_{18}H_{18}N_2O_4$ M.Wt 326.35

Solubility ≥ 13.1 mg/mL in DMSO, ≥ 3.17 mg/mL in EtOH with ultrasonic and warming
Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Protocol

Cell experiment [1]:

Cell lines MDA-MB-231 cell lines

Caution: Product has not been fully validated for medical applications. For research use only.

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Product Data Sheet

Preparation method The solubility of this compound in DMSO is >10 mM. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Reaction Conditions 48 h; 1.0 mg/mL

Applications Based on MTT assay a concentration of 1mg/ml of Scriptaid was chosen for the experiments in MDA-MB-231. MDA-MB-231 cells were treated with 0.1, 0.5, and 1.0 mg/mL of Scriptaid for 48 h. A dose-dependent increase in α -ER mRNA was detectable with concentrations as low as 0.1mg/ml in MDA-MB-231. Maximal α -ER mRNA was detected at 1.0mg/ml.

Animal experiment [2]:

Animal models B6D2F1 male and female mice; SCNT embryos

Dosage form 250 nM; immersion

Applications Treating SCNT embryos with HDAC inhibitor, scriptaid, all the important inbred mouse strains can be cloned, such as C57BL/6, C3H/He, DBA/2, and 129/Sv. Normal development, reproductive ability, and genotype in cloned inbred mice produced by scriptaid treatment. Scriptaid has also lower toxicity for embryo development that treatment of ICSI-fertilized embryos with 250 nM scriptaid, for up to 48 h, did not inhibit in vitro or in vivo development.

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Other notes Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

References:

- [1] Giacinti L, Giacinti C, Gabellini C, et al. Scriptaid effects on breast cancer cell lines[J]. Journal of cellular physiology, 2012, 227(10): 3426-3433.
- [2] Van Thuan N, Bui H T, Kim J H, et al. The histone deacetylase inhibitor scriptaid enhances nascent mRNA production and rescues full-term development in cloned inbred mice[J]. Reproduction, 2009, 138(2): 309-317.

Background

Scriptaid, identified by a high-throughput transcriptional screening, is a novel histone deacetylase (HDAC) with specific potency towards class I HDACs (50% inhibition concentration IC₅₀ values of 0.6 μM for HDAC1 and HDAC3 and 1 μM for HDAC8). Scriptaid shares a similar chemical structure with several others hydroxamic acid-containing HDAC inhibitors (such as TSA and nullscript), which consists of a hydroxamic acid group, an aliphatic chain and an aromatic cap at the other end. Scriptaid has the potential to be used for the treatment of glioblastoma multiforme (GBM), one of the most challenging solid cancers to treat, for its ability to induce apoptosis in glioblastoma cells.

Reference

Sharma V, Koul N, Joseph C, Dixit D, Ghosh S, Sen E. HDAC inhibitor, scriptaid, induces glioma cell apoptosis through JNK activation and inhibits telomerase activity. J Cell Mol Med. 2010;14(8):2151-2161.

Hu E, Dul E, Sung CM, Chen Z, Kirkpatrick R, Zhang GF, Johanson K, Liu R, Lago A, Hofmann G, Macarron R, de los Frailes M, Perez P, Krawiec J, Winkler J, Jaye M. Identification of novel isoform-selective inhibitors within class I histone deacetylases. J Pharmacol Exp Ther. 2003;307(2):720-728.

Su GH, Sohn TA, Ryu B, Kern SE. A novel histone deacetylase inhibitor identified by high-throughput

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transcriptional screening of a compound library. Cancer Res. 2000; 60(12):3137-3142.

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