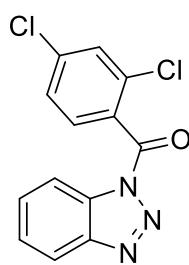


Product data sheet



MedKoo Cat#: 407434 Name: ITSA-1 CAS: 200626-61-5 Chemical Formula: C ₁₃ H ₇ Cl ₂ N ₃ O Exact Mass: 290.9966 Molecular Weight: 292.119	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:

ITSA-1 (ITSA1) is selective HDAC inhibitor. ITSA-1 may prove to be valuable probes of many biological processes. Histone deacetylase (HDAC) inhibitors are being developed as new clinical agents in cancer therapy, in part because they interrupt cell cycle progression in transformed cell lines.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMF	10.0	34.23
DMSO	33.33	114.11
DMSO:PBS (pH 7.2) (1:2)	0.3	1.03
Ethanol	3.5	11.98

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.42 mL	17.12 mL	34.23 mL
5 mM	0.68 mL	3.42 mL	6.85 mL
10 mM	0.34 mL	1.71 mL	3.42 mL
50 mM	0.07 mL	0.34 mL	0.68 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Wang TY, Chang MM, Li YJ, Huang TC, Chien S, Wu CC. Maintenance of HDACs and H3K9me3 Prevents Arterial Flow-Induced Venous Endothelial Damage. *Front Cell Dev Biol.* 2021 Apr 9;9:642150. doi: 10.3389/fcell.2021.642150. PMID: 33898431; PMCID: PMC8063156.
2. Shen Z, Liao X, Shao Z, Feng M, Yuan J, Wang S, Gan S, Ha Y, He Z, Jie W. Short-term stimulation with histone deacetylase inhibitor trichostatin a induces epithelial-mesenchymal transition in nasopharyngeal carcinoma cells without increasing cell invasion ability. *BMC Cancer.* 2019 Mar 22;19(1):262. doi: 10.1186/s12885-019-5482-y. PMID: 30902084; PMCID: PMC6431036.

In vivo study

1. Behera J, Kelly KE, Voor MJ, Metreveli N, Tyagi SC, Tyagi N. Hydrogen Sulfide Promotes Bone Homeostasis by Balancing Inflammatory Cytokine Signaling in CBS-Deficient Mice through an Epigenetic Mechanism. *Sci Rep.* 2018 Oct 15;8(1):15226. doi: 10.1038/s41598-018-33149-9. PMID: 30323246; PMCID: PMC6189133.

Product data sheet



7. Bioactivity

Biological target:

ITSA-1 is an activator of histone deacetylase (HDAC), and counteract trichostatin A (TSA)-induced cell cycle arrest, histone acetylation, and transcriptional activation.

In vitro activity

Since this study observed a decrease of HDACs expression in ALS-induced vEC inflammation (Figure 2D), this study induced HDACs expression in HSVECs under ALS by initiating ITSA-1 (150 μ M) treatment and measured H3K9me3 expression and cell inflammation in ISTA-1 and ALS treatments. Taken together, these data suggest that the increased expressions of HDACs and H3K9me3 by ITSA-1 could reverse inflammation in ALS-induced vECs.

Reference: Front Cell Dev Biol. 2021 Apr 9;9:642150. <https://pubmed.ncbi.nlm.nih.gov/33898431/>

In vivo activity

A blockade of HDAC3 inhibition in CBS^{+/-} mice by HDAC activator ITSA-1, led to the remodeling of histone landscapes in the genome and thereby attenuated histone acetylation-dependent inflammatory signaling. Collectively, restoration of H2S may provide a novel treatment for CBS-deficiency induced metabolic osteoporosis.

Reference: Sci Rep. 2018 Oct 15;8(1):15226. <https://pubmed.ncbi.nlm.nih.gov/30323246/>

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.