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Ferrostatin-1

Catalog No: tcsc0019733

Available Sizes

Size: 5mg

Size: 10mg

Size: 25mg

Size: 50mg

Specifications

CAS No:
347174-05-4

Formula:
$C_{15}H_{22}N_2O_2$

Pathway:
Anti-infection; Apoptosis

Target:
Ferroptosis; Fungal

Form:
Light brown to gray (Solid)

Purity / Grade:
99.86%

Solubility:
DMSO : 125 mg/mL (ultrasonic)

Storage Instruction:
2-8°C, protect from light

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Alternative Names:
Benzoic acid, 3-amino-4-(cyclohexylamino)-, ethyl ester

Observed Molecular Weight:
262.35

References

[1]. Dixon SJ, et al. Ferroptosis: an iron-dependent form of nonapoptotic cell death. Cell. 2012;149(5):1060-1072. [2]. Skouta R, Dixon SJ, Wang J, et al. Ferrostatins inhibit oxidative lipid damage and cell death in diverse disease models. J Am Chem Soc. 2014;136(12):4551-4556. [3]. Horwath MC, et al. Antifungal Activity of the Lipophilic Antioxidant Ferrostatin-1. Chembiochem. 2017;18(20):2069-2078. [4]. Liu P, Feng Y, et al. Ferrostatin-1 alleviates lipopolysaccharide-induced acute lung injury via inhibiting ferroptosis. Cell Mol Biol Lett. 2020;25:10. Published 2020 Feb 27.
 [5]. Melania Guerrero Hue, et al. FP282 FERROPTOSIS-MEDIATED CELL DEATH IS DECREASED BY CURCUMIN IN RENAL DAMAGE ASSOCIATED TO RHABDOMYOLYSIS, Nephrology Dialysis Transplantation, Volume 34, Issue Supplement_1, June 2019, gfz106.FP282.

Product Description

Ferrostatin-1 (Fer-1), a potent and selective ferroptosis inhibitor, suppresses Erastin-induced ferroptosis in HT-1080 cells (EC50=60nM). Ferrostatin-1, a synthetic antioxidant, acts via a reductive mechanism to prevent damage to membrane lipids and therebyinhibits cell death. Ferrostatin-1 exhibits antifungal activity[1][2][3]. IC50 & Target:EC50: 60 nM (Ferroptosis)[1] In Vitro:Ferrostatin-1prevents erastin-induced accumulation of cytosolic and lipid ROS. Ferrostatin-1 prevents glutamate-induced neurotoxicity inorganotypic rat brain slices[1]

Ferrostatin-1 (2 μM; 24 h) prevents Glutamate (5 mM)-induced neurotoxicity in a rat organotypic hippocampal slice culture (OHSC)[2]Ferrostatin-1 inhibits lipid peroxidation, but not mitochondrial reactive oxygen species formation or lysosomal membrane permeability[2]

Ferrostatin-1 inhibits cell death in cellular models of Huntington's disease (HD), periventricular leukomalacia (PVL), and kidneydysfunction[2]

Ferrostatin-1 (1 μM; 6 h) inhibits the oxidative destruction of unsaturated fatty acids in HT-1080 cells, thus increases the number of healthy medium spiny neurons (MSNs)[3]

In Vivo:Ferrostatin-1 (5 mg/kg; ip; single dose, 30 min before glycerol injection) improves renal function in mice with rhabdomyolysis, whereas no beneficial effects were observed with the pan-caspase inhibitor zVAD or in RIPK3-deficient mice[1]

Ferrostatin-1 (0.8 mg/kg; tail vein injection) effectively alleviates LPS-induced induced acute lung injury (ALI)[4]

Ferrostatin-1 (i.p.; 5 mg/kg; C57BL/6J mice) improves renal function in mice with rhabdomyolysis[5]

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