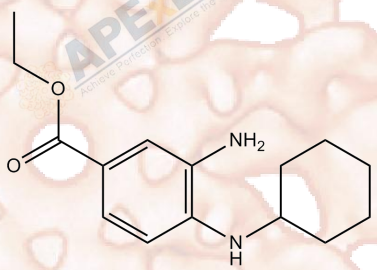
Product Data Sheet

Ferrostatin-1 (Fer-1)

Cat. No.: A4371
CAS No.: 347174-05-4
Formula: C15H22N2O2
M.Wt: 262.35
Synonyms: Fer-1
Target:
Pathway: Anti-infection, Autophagy
Storage: Store at -20° C



Solvent & Solubility

In Vitro

⩾149 mg/mL in DMSO; ⩾99.6 mg/mL in EtOH with ultrasonic; insoluble in H2O

Preparing Stock Solutions

Mass / Solvent / Concentration	1mg	5mg	10mg
1 mM	3.8117 mL	19.0585 mL	38.1170 mL
5 mM	0.7623 mL	3.8117 mL	7.6234 mL
10 mM	0.3812 mL	1.9059 mL	3.8117 mL

Please refer to the solubility information to select the appropriate solvent.

Biological Activity

Shortsummary

Ferrostatin-1 (Fer-1;CAS 347174-05-4) is a selective inhibitor of ferroptosis, a regulated form of iron-dependent, oxidative cell death characterized by lipid peroxidation. It functions primarily by reducing lipid reactive oxygen species (ROS), thus inhibiting membrane lipid peroxidation and preventing ferroptosis induction triggered by compounds such as erastin. In experimental contexts, Fer-1 is employed to investigate ferroptotic pathways in different disease models, including cancer biology, neurodegeneration, and ischemic injury. Ferrostatin-1 demonstrates an IC50 value of approximately 60 nM in inhibiting ferroptosis induced by erastin in cellular assays, rendering it suitable for mechanistic studies and therapeutic research involving modulation of iron-dependent oxidative damage pathways.

IC_{50} & Target

In Vitro	**Cell Viability Assay**	
	Cell Line:	Healthy medium spiny neurons, oligodendrocytes, kidney proximal tubules cell
	Preparation method:	The solubility of this compound in DMSO is >9.8mg/mL. General tips for obtaining a higher concentration: Please warm the tube at 37 ℃ for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20℃ for several months.
	Reacting conditions:	10 nM, 100 nM, and 1 μM
	Applications:	Fer-1 (10 nM, 100 nM, and 1 μM) significantly increased the number of healthy MSNs. Fer-1 (1 μM) statistically increased the number of healthy MSN. Fer-1 (100 nM) fully protected oligodendrocytes from cystine deprivation. Fer-1 (0.1-2 μM) prevented lethality induced by hydroxyquinoline and ferrous ammonium sulfate (HQ + Fe; 10 μM each).
In Vivo	**Animal experiment**	
	Animal models:	Male C57BL/6 mice (LPS-induced ALI)
	Dosage form:	0.8 mg/kg
	Applications:	Exerted therapeutic action against LPS-induced ALI.
	Preparation method:	Tail vein injection
	Other notes:	The technical data provided above is for reference only. 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.

Product Citations

See more customer validations on www.apexbt.com.

References

1.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.

2. 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.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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