

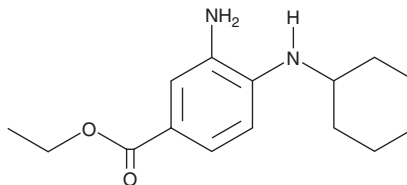
PRODUCT INFORMATION



Ferrostatin-1

Item No. 17729

CAS Registry No.: 347174-05-4
Formal Name: 3-amino-4-(cyclohexylamino)-benzoic acid, ethyl ester
Synonym: Fer-1
MF: C₁₅H₂₂N₂O₂
FW: 262.4
Purity: ≥98%
UV/Vis.: λ_{max}: 217, 245, 323 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Ferrostatin-1 is supplied as a crystalline solid. A stock solution may be made by dissolving the ferrostatin-1 in the solvent of choice, which should be purged with an inert gas. Ferrostatin-1 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of ferrostatin-1 in ethanol and DMSO is approximately 10 mg/ml and approximately 30 mg/ml in DMF.

Ferrostatin-1 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, ferrostatin-1 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Ferrostatin-1 has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Ferrostatin-1 is a ferroptosis inhibitor.¹ It inhibits cell death induced by the ferroptosis inducers erastin (Item No. 17754; EC₅₀ = 60 nM) and RSL3, but not by hydrogen peroxide, rotenone, or staurosporine, in HT-1080 cells when used at a concentration of 0.5 μM. Ferrostatin-1 (0.5 μM) inhibits erastin-induced production of reactive oxygen species (ROS) and lipid peroxidation in HT-1080 cells. It increases cell survival in cell-based models of Huntington's disease, periventricular leukomalacia, and kidney proximal tubule damage in a concentration-dependent manner.² Ferrostatin-1 (2 μM) inhibits cell death induced by L-glutamate in a rat organotypic hippocampal slice culture (OHSC) model.¹ It also inhibits autooxidation of lipids by trapping peroxy radicals.^{1,3}

References

1. Dixon, S.J., Lemberg, K.M., Lamprecht, M.R., *et al.* Ferroptosis: An iron-dependent form of non-apoptotic cell death. *Cell* **149**(5), 1060-1072 (2012).
2. Skouta, R., Dixon, S.J., Wang, J., *et al.* Ferrostatins inhibit oxidative lipid damage and cell death in diverse disease models. *J. Am. Chem. Soc.* **136**(12), 4551-4556 (2014).
3. Zilka, O., Shah, R., Li, B., *et al.* On the mechanism of cytoprotection by ferrostatin-1 and liproxstatin-1 and the role of lipid peroxidation in ferroptotic cell death. *ACS Cent. Sci.* **3**(3), 232-243 (2017).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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