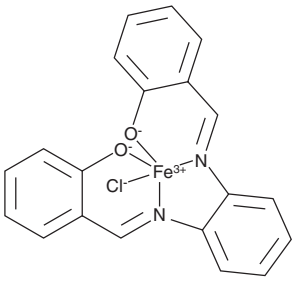
PRODUCT INFORMATION

Chlorido[N,N'-disalicylidene-1,2-phenylenediamine]iron(III)

Item No. 28788

CAS Registry No.:	39916-28-4
Formal Name:	(SP-5-13)-chloro[[2,2′-[1,2-phenylenebis[(nitrilo-κN)methylidyne]]*bis*[phenolato-κO]](2-)]-iron
Synonyms:	Iron Salophene Complex, [N,N'-o-Phenylenebis(salicylideneaminato)]iron(III) Chloride
MF:	$C_{20}H_{14}ClFeN_2O_2$
FW:	405.6
Purity:	≥95%
UV/Vis.:	λ_{max}: 244, 302, 375 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

Chlorido[N,N'-disalicylidene-1,2-phenylenediamine]iron(III) is supplied as a crystalline solid. A stock solution may be made by dissolving the chlorido[N,N'-disalicylidene-1,2-phenylenediamine]iron(III) in the solvent of choice, which should be purged with an inert gas. Chlorido[N,N'-disalicylidene-1,2-phenylenediamine]iron(III) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of chlorido[N,N'-disalicylidene-1,2-phenylenediamine]iron(III) in these solvents is approximately 0.3, 14, and 20 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of chlorido[N,N'-disalicylidene-1,2-phenylenediamine]iron(III) can be prepared by directly dissolving the crystalline solid in aqueous buffers. Chlorido[N,N'-disalicylidene-1,2-phenylenediamine]iron(III) is slightly soluble in PBS, pH 7.2. We do not recommend storing the aqueous solution for more than one day.

Description

Chlorido[N,N'-disalicylidene-1,2-phenylenediamine]iron(III) is an inducer of ferroptosis.[1] It induces ferroptosis, but not apoptosis or necroptosis, in NB1 cancer cells when used at a concentration of 3 µM.[1] Chlorido[N,N'-disalicylidene-1,2-phenylenediamine]iron(III) inhibits proliferation of BJAB, NALM-6, Jurkat, MelHO, and MCF-7 cancer cells (IC_{50}s = 0.07, 2.5, 1.5, 3, and 5 µM, respectively), as well as NALM-6 cells resistant to daunorubicin (Item No. 14159) and vincristine (Item No. 11764) when used at concentrations ranging from 0.04 to 0.125 µM.[2]

References

1. Sagasser, J., Ma, B., Baecker, D., *et al.* A new approach in cancer treatment: Discovery of chlorido[N,N'-disalicylidene-1,2-phenylenediamine]iron(III) complexes as ferroptosis inducers. *J. Med. Chem.* **62(17),** 8053-8061 (2019).
2. Lee, S.-Y., Hille, A., Kitanovic, I., *et al.* [Fe^{III}(salophene)Cl], a potent iron salophene complex overcomes multiple drug resistance in lymphoma and leukemia cells. *Leuk. Res.* **35(3),** 387-393 (2011).

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