Data Sheet (Cat.No.T206665)

TargetMol

Ferroptosis inducer-7

Chemical Properties

CAS No. :

Formula:

Molecular Weight:

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Ferroptosisinducer-7 is an orally active and selective inducer of ferroptosis, operating through the inositol 1,4,5-trisphosphate receptor (IP3R)/ORAI calcium release-activated calcium channel protein. This compound significantly alleviates anemia, inhibits bone marrow CTL activation, and improves hematopoietic function in immune-mediated bone marrow failure. It is utilized in research on aplastic anemia.
Targets(IC50)	ERK,Ferroptosis,MEK,p38 MAPK
In vitro	Ferroptosis inducer-7 (Compound 3a-M1) (1-10 μM) significantly inhibits the proliferation of CD8+ T cells and the release of IFN-γ and TNF-α in BALB/c mouse lymph nodes. At concentrations of 7.5-480 μM over 72 hours, Ferroptosis inducer-7 displays selective inhibition of proliferation in the cytotoxic lymphocyte cell line-2 (CTLL-2) compared to other immune cell lines. Additionally, Ferroptosis inducer-7 at 7.5-30 μM for 16 hours shows that inhibition of CTL function is due to the activation of ferroptosis in IL-2-treated CTLL-2 cells. Moreover, a concentration of 10 μM for 45 minutes of Ferroptosis inducer-7 can increase Ca2+ influx triggered by IP3R/ORAI calcium channels in CTL cells.
In vivo	Ferroptosis inducer-7, when administered orally at a dose of 10 mg/kg for 14 days, effectively alleviates anemia and enhances hematopoietic function while also improving survival rates in immune-mediated bone marrow failure models in BALB/c mice. At doses ranging from 5 to 15 mg/kg administered orally for 21 days, it boosts survival, alleviates anemia, and promotes hematopoietic function in C57BL/6J mice models of immune-mediated bone marrow failure, particularly during early stages. A single oral dose of Ferroptosis inducer-7 (5-15 mg/kg) reduces the proportion of T cells, notably CD8+ cells and the CD8+/CD4+ ratio, in C57BL/6J mice with aplastic anemia. Furthermore, a single oral dose of 10 g/kg in mouse models shows no abnormalities, suggesting the maximum tolerated dose surpasses 10 g/kg.