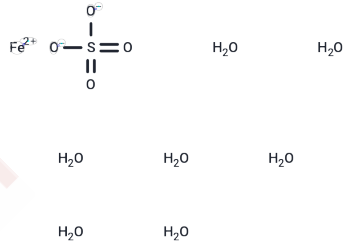
Data Sheet (Cat.No.TSH-00063)

TargetMol

Iron(II) sulfate heptahydrate

Chemical Properties



CAS No. : 7782-63-0

Formula: FeH14O11S

Molecular Weight: 278.02

Storage: Store at RT
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Iron(II) sulfate heptahydrate is an important iron salt commonly used in water treatment as a flocculant, as well as a fertiliser and soil conditioner, and serves as a raw material for the preparation of other iron compounds.
Targets(IC50)	Others
In vitro	**Methods**: Iron(II) sulfate heptahydrate (16-125 μM, 48 h) was used to treat K562 chronic myeloid leukemia cells and T47D breast cancer cells to observe the effect on cell growth. **Results**: Iron(II) sulfate heptahydrate inhibited the growth of both cell lines. [1]
In vivo	**Methods**: Forty male albino rats were divided into two groups: a control group and an anemia group that received a standard iron-free basal diet for 6 weeks. The anemia group was divided into three groups: an anemia control group, an Iron(II) sulfate heptahydrate group (receiving Iron(II) sulfate heptahydrate, 0.4 mg/kg, 10 days) and an iron oxide nanoparticle group (receiving iron oxide nanoparticles 0.4 mg/kg, 10 days) in drinking water to observe the therapeutic effects of Iron(II) sulfate heptahydrate and iron oxide nanoparticles on iron deficiency anemia in rats. **Results**: Iron(II) sulfate heptahydrate was not as effective as iron oxide nanoparticles in treating iron deficiency anemia in rats. [2]

Solubility Information

Solubility	H2O: 80 mg/mL (287.75 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.5969 mL	17.9843 mL	35.9686 mL
5 mM	0.7194 mL	3.5969 mL	7.1937 mL
10 mM	0.3597 mL	1.7984 mL	3.5969 mL
50 mM	0.0719 mL	0.3597 mL	0.7194 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Kok SH, et al. Paradoxical proliferative potential of iron (II) sulphate on cancer cells after the 3-(4,5-dimethylthiazol-2-yl)-5-(3-carboxymethoxyphenyl)-2-(4-sulfophenyl)-2H-tetrazolium (MTS) assay. Int J Mol Med. 2007 Jun;19(6):971-5.

Elshemy M A E. Iron oxide nanoparticles versus ferrous sulfate in treatment of iron deficiency anemia in rats. Egyptian Journal of Veterinary Sciences, 2018, 49(2): 103-109.