Ferrozine

Cat. No.: HY-137805

CAS No.: 69898-45-9

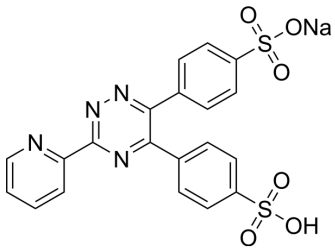
Molecular Formula: $C_{20}H_{13}N_4NaO_6S_2$

Molecular Weight: 492.46

Target: Fluorescent Dye

Pathway: Others

Storage: 4°C, sealed storage, away from moisture and light
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (101.53 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.0306 mL	10.1531 mL	20.3062 mL
	5 mM	0.4061 mL	2.0306 mL	4.0612 mL
	10 mM	0.2031 mL	1.0153 mL	2.0306 mL

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

BIOLOGICAL ACTIVITY

Description

Ferrozine is a spectrophotometric reagent for iron, can react with divalent Fe to form a stable magenta complex species. The complex has an absorption peak at 562 nm[1][2].Ferrozine-based colorimetric assays can quantify iron in cells[3]

In Vitro

Colorimetric ferrozine-based assay for the quantitation of iron in cultured cells[3]
1: Preparation of Reagents
1.1: Iron Releasing Reagent: Prepare a mixture of 1.4 M HCl and 4.5% KMnO4.
1.2: Iron Detection Reagent: Prepare a solution containing 6.5 mM Ferrozine, 6.5 mM neocuproine(HY-W004563), 2.5 M ammonium acetate, and 1 M ascorbic acid.
2: Cell Treatment: Treat cultured cells with different concentrations of Ferric Ammonium Citrate (FAC) (HY-B1645) and incubate for 24 hours. After treatment, wash the cells with PBS and collect them.
3: Cell Lysis and Iron Release
3.1: Cell Lysis: Lyse cells using 50 mM NaOH, typically agitating at room temperature for 2 hours.
3.2: Iron Release: Add the iron releasing reagent to the lysate and then incubate at 60°C for 2 hours.
4: Colorimetric Determination of Iron Content
4.1: Iron Detection Reaction: Mix the lysate with the iron detection reagent and react for 30 minutes.
4.2: Absorbance Measurement: Measure the absorbance at 550 nm using a microplate reader.

	5: Data Analysis 5.1: Standard Curve: Prepare standard solutions with known concentrations of iron, measure their absorbance at 550 nm, and establish a standard curve. 5.2: Iron Content Calculation: Calculate the iron content of the samples by comparing their absorbance to the standard curve. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Ferrozine-A New Spectrophotometric Reagent for Iron. ANALYTICAL CHEMISTRY, VOL. 42, NO. 7, JUNE 1970. 779-781

[2]. E Viollier, et al. The ferrozine method revisited: Fe(II)/Fe(III) determination in natural waters.

[3]. Riemer et al.Colorimetric ferrozine-based assay for the quantitation of iron in cultured cells. Anal Biochem. 2004 Aug 15;331(2):370-5.

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