Ferrous bisglycinate

Cat. No.: HY-130078

CAS No.: 20150-34-9

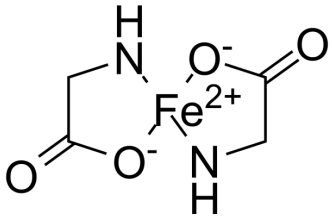
Molecular Formula: $C_4H_6FeN_2O_4$

Molecular Weight: 201.95

Target: Others

Pathway: Others

Storage: 4°C, protect from light, stored under nitrogen
* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light, stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro

0.1 M HCL : 2 mg/mL (9.90 mM; ultrasonic and warming and adjust pH to 2 with HCl and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	4.9517 mL	24.7586 mL	49.5172 mL
	5 mM	0.9903 mL	4.9517 mL	9.9034 mL
	10 mM	---	---	---

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

In Vivo

1. Add each solvent one by one: PBS
Solubility: 2 mg/mL (9.90 mM); Clear solution; Need ultrasonic and warming and heat to 60°C

BIOLOGICAL ACTIVITY

Description

Ferrous bisglycinate is an orally active iron fortificants and therapeutic iron supplements. Ferrous bisglycinate can be used for the research of iron deficiency anemia[1][2].

In Vitro

Ferrous bisglycinate (25-200 μM; 2 h) does not affect the Caco-2 cells viability[2].
Ferrous bisglycinate (25 μM; 2 h) increases ferritin content in the Caco-2 cells[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[2]

Cell Line:	Caco-2 cells
Concentration:	0, 25, 50, 100, 200 μM
Incubation Time:	2 hours

Result:	Did not affect the viability of wild-type and divalent metal transporter 1 (DMT1) knockout Caco-2 cells.

Western Blot Analysis[2]

Cell Line:	Caco-2 cells
Concentration:	25 μM
Incubation Time:	2 hours
Result:	Increased ferritin content and decreased DMT1 expression levels significantly in the wild-type cells.

In Vivo

Ferrous bisglycinate (500 mg/kg iron; p.o.) exerts a protective effect on colitis in mice[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Female C57BL/6 mice are induced colitis by dextran sodium sulfate (DSS)[3]
Dosage:	500 mg/kg iron
Administration:	P.o. (add to the diet) for 10 days
Result:	Had the best survival rates (100%). Caused the least body lost (9% body loss).

REFERENCES

[1]. Ferrari P, et, al. Treatment of mild non-chemotherapy-induced iron deficiency anemia in cancer patients: comparison between oral ferrous bisglycinate chelate and ferrous sulfate. Biomed Pharmacother. 2012 Sep; 66(6): 414-8.

[2]. Yu X, et, al. Iron Transport from Ferrous Bisglycinate and Ferrous Sulfate in DMT1-Knockout Human Intestinal Caco-2 Cells. Nutrients. 2019 Feb 26; 11(3): 485.

[3]. Constante M, et, al. Iron Supplements Modulate Colon Microbiota Composition and Potentiate the Protective Effects of Probiotics in Dextran Sodium Sulfate-induced Colitis. Inflamm Bowel Dis. 2017 May; 23(5): 753-766.

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