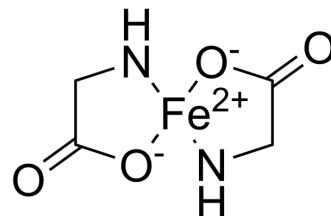


## Ferrous bisglycinate

<b>Cat. No.:</b>	HY-130078
<b>CAS No.:</b>	20150-34-9
<b>Molecular Formula:</b>	C <sub>4</sub> H <sub>8</sub> FeN <sub>2</sub> O <sub>4</sub>
<b>Molecular Weight:</b>	203.96
<b>Target:</b>	Transferrin Receptor
<b>Pathway:</b>	Apoptosis
<b>Storage:</b>	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

<b>In Vitro</b>	0.1 M HCL : 2 mg/mL (9.81 mM; ultrasonic and warming and adjust pH to 2 with HCl and heat to 60°C)				
<b>Preparing Stock Solutions</b>	<b>Solvent</b>	<b>Mass</b>	<b>1 mg</b>	<b>5 mg</b>	<b>10 mg</b>
	<b>Concentration</b>				
	<b>1 mM</b>		4.9029 mL	24.5146 mL	49.0292 mL
	<b>5 mM</b>		0.9806 mL	4.9029 mL	9.8058 mL
	<b>10 mM</b>		---	---	---
Please refer to the solubility information to select the appropriate solvent.					
<b>In Vivo</b>	1. Add each solvent one by one: PBS Solubility: 2 mg/mL (9.81 mM); Clear solution; Need ultrasonic and warming and heat to 60°C				

### BIOLOGICAL ACTIVITY

<b>Description</b>	Ferrous bisglycinate is an orally active iron fortificants and therapeutic iron supplements. Ferrous bisglycinate can be used for the research of iron deficiency anemia <sup>[1][2]</sup> .	
<b>In Vitro</b>	Ferrous bisglycinate (25-200 μM; 2 h) does not affect the Caco-2 cells viability <sup>[2]</sup> . Ferrous bisglycinate (25 μM; 2 h) increases ferritin content in the Caco-2 cells <sup>[2]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only. Cell Viability Assay <sup>[2]</sup>	
	Cell Line:	Caco-2 cells
	Concentration:	0, 25, 50, 100, 200 μM
	Incubation Time:	2 hours

	<table border="1"> <tr> <td>Result:</td> <td>Did not affect the viability of wild-type and divalent metal transporter 1 (DMT1) knockout Caco-2 cells.</td> </tr> </table>	Result:	Did not affect the viability of wild-type and divalent metal transporter 1 (DMT1) knockout Caco-2 cells.						
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	Western Blot Analysis <sup>[2]</sup>								
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Result:	Increased ferritin content and decreased DMT1 expression levels significantly in the wild-type cells.								
<b>In Vivo</b>	<p>Ferrous bisglycinate (500 mg/kg iron; p.o.) exerts a protective effect on colitis in mice<sup>[3]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <table border="1"> <tr> <td>Animal Model:</td> <td>Female C57BL/6 mice are induced colitis by dextran sodium sulfate (DSS)<sup>[3]</sup></td> </tr> <tr> <td>Dosage:</td> <td>500 mg/kg iron</td> </tr> <tr> <td>Administration:</td> <td>P.o. (add to the diet) for 10 days</td> </tr> <tr> <td>Result:</td> <td>Had the best survival rates (100%). Caused the least body lost (9% body loss).</td> </tr> </table>	Animal Model:	Female C57BL/6 mice are induced colitis by dextran sodium sulfate (DSS) <sup>[3]</sup>	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).
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## 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.

**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA