Succimer

Cat. No.: HY-B1768

CAS No.: 304-55-2

Molecular Formula: $C_4H_6O_4S_2$

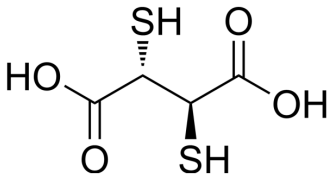
Molecular Weight: 182.22

Target: Others

Pathway: Others

Storage:

Powder	-20°C	3 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (548.79 mM)

H_2O : 4.55 mg/mL (24.97 mM; ultrasonic and warming and adjust pH to 9 with NaOH and heat to 80°C)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	5.4879 mL	27.4394 mL	54.8787 mL
5 mM	1.0976 mL	5.4879 mL	10.9757 mL
10 mM	0.5488 mL	2.7439 mL	5.4879 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (13.72 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (13.72 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (13.72 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Succimer is a widely used chelating agent for the treatment of Pb poisoning.

In Vivo

Succimer is a widely used chelating agent for the treatment of Pb poisoning. Red blood cells (RBCs) from lead exposed animals treated with NAC or Succimer are shown to have significantly higher glutathione (GSH) levels and diminished malondialdehyde (MDA) levels when compare to the lead group. Succimer administration also results in decreased glucose 6-phosphate dehydrogenase (G6PD) activity in RBCs from lead exposed animals[1]. Succimer treatment produces a

significant reduction in blood lead levels for both lead exposure conditions: the High Pb-succ group has blood lead levels that are 27% of the blood lead levels of the High Pb group at the end of treatment. Succimer is effective in substantially reducing brain lead, as brain lead levels in the High Pb-succ group are 37% of levels in the High Pb group[2].

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

PROTOCOL

Animal Administration [1]

All experiments are performed with Fisher 344 male rats weighing 75 to 100 g. The animals are randomized into four groups. Group I (n=11) serves as the control and is given only standard rat chow and water for 6 weeks. Group II (n=11) receives 2000 ppm lead acetate in its drinking water for 5 weeks and, during the 6th week, this group receives water. Group III (n=6) receives 2000 ppm lead acetate in its drinking water for 5 weeks and, during the 6th week, these animals receive 800 mg/kg/day NAC dissolved in water. Group IV (n=6) is treated like group III, except that it receives 90 mg/kg/day Succimer during the last week. At the end of the 6th week, after overnight fasting, the animals are anesthetized with metofane and blood samples are collected via intracardiac puncture using heparin as an anticoagulant. Plasma and the buffy coat are removed by centrifugation for 10 min at 3000 rpm. The RBCs are washed three times with an equal volume of cold saline[1].

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

REFERENCES

[1]. Gürer H, et al. Antioxidant effects of N-acetylcysteine and succimer in red blood cells from lead-exposed rats. Toxicology. 1998 Jul 17;128(3):181-9.

[2]. Beaudin SA, et al. Succimer chelation normalizes reactivity to reward omission and errors in lead-exposed rats. Neurotoxicol Teratol. 2007 Mar-Apr;29(2):188-202.

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