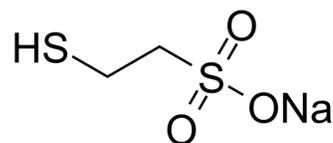


Sodium 2-mercaptoethanesulfonate

Cat. No.:	HY-13679
CAS No.:	19767-45-4
Molecular Formula:	C ₂ H ₅ NaO ₃ S ₂
Molecular Weight:	164.18
Target:	Others
Pathway:	Others
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro	DMSO : 250 mg/mL (1522.72 mM; ultrasonic and warming and heat to 60°C)					
	H ₂ O : ≥ 50 mg/mL (304.54 mM)					
	* "≥" means soluble, but saturation unknown.					
	Preparing Stock Solutions	Solvent	Mass	1 mg	5 mg	10 mg
		Concentration				
1 mM			6.0909 mL	30.4544 mL	60.9088 mL	
5 mM			1.2182 mL	6.0909 mL	12.1818 mL	
	10 mM		0.6091 mL	3.0454 mL	6.0909 mL	
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	1. Add each solvent one by one: PBS Solubility: 100 mg/mL (609.09 mM); Clear solution; Need ultrasonic					

BIOLOGICAL ACTIVITY

Description	Mesna (Sodium 2-mercaptoethanesulfonate) is an antioxidant which has cytoprotective effects. Mesna is widely used as a systemic protective agent against chemotherapy toxicity. Mesna is also used to reduce hemorrhagic cystitis induced by cyclophosphamide ^{[1][2]} .
In Vitro	Mesna (1-1000 μM) reduces H ₂ O ₂ , HOCl and OH• concentrations in a dose-dependent manner, with an IC ₅₀ of 32, 21, and 305 μM, respectively in cell-free experiments ^[3] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Mesna (150 mg/kg; a single i.p.) protects the rat brain against traumatic injury ^[1] . Mesna (200 mg/kg; a single i.p.) attenuates the cisplatin-induced ovarian damages in rats ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Adult male Wistar Albino rats (250-350 g) are suffered traumatic brain injury (TBI) ^[1]
Dosage:	150 mg/kg
Administration:	A single i.p.
Result:	Decreased tissue malondialdehyde levels. Increased the activity of glutathione peroxidase and superoxide dismutase. Decreased the levels of nitric oxide, nitric oxide synthetase and xanthine oxidase. Protected the brain tissues well from injury.

CUSTOMER VALIDATION

- Cell Rep. 2022 Apr 19;39(3):110712.

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REFERENCES

- [1]. Yilmaz ER, Kertmen H, Gürer B, The protective effect of 2-mercaptoethane sulfonate (MESNA) against traumatic brain injury in rats. Acta Neurochir (Wien). 2013 Jan;155(1):141-9; discussion 149.
- [2]. Li X, Yang S, Lv X, The mechanism of mesna in protection from cisplatin-induced ovarian damage in female rats. J Gynecol Oncol. 2013 Apr;24(2):177-85.
- [3]. Gressier B, et, al. Scavenging of reactive oxygen species by letosteine, a molecule with two blocked-SH groups. Comparison with free-SH drugs. Pharm World Sci. 1995 May 26;17(3):76-80.

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

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