

## Product Data Sheet

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Product Name: Mesna  
Cat. No.: GC12930

### Chemical Properties

Cas. No. 19767-45-4

Chemical Name sodium;2-sulfanylethanesulfonate

SMILES C(CS(=O)(=O)[O-])S.[Na+]

Formula  $C_2H_5NaO_3S_2$  M.Wt 164.18

Solubility  $\geq 8.05\text{mg/mL}$  in DMSO Storage Store at  $-20^\circ\text{C}$

General tips For obtaining a higher solubility, please warm the tube at  $37^\circ\text{C}$  and shake it in the ultrasonic bath for a while. Stock solution can be stored below  $-20^\circ\text{C}$  for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

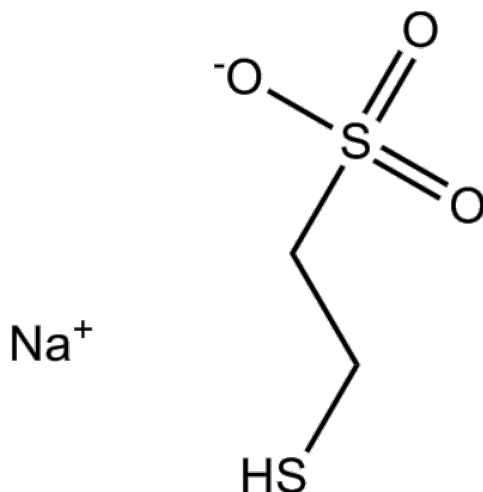
**Caution: Product has not been fully validated for medical applications. For research use only.**

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### Structure



### Background

Mesna, is a synthetic small molecule, widely used as a systemic protective agent against chemotherapy toxicity, but is primarily used to reduce hemorrhagic cystitis induced by cyclophosphamide. Target: in vitro: MESNA had no effect on the qualitative and quantitative characteristics of the indicated processes in both the types of the doxorubicin sensitive cells. The combined use of doxorubicin and phosphamide or cyclophosphane the use of MESNA for lowering the urotoxic action of oxazophosphorines had no effect on the biological efficacy of doxorubicin[3]. in vivo: AMH-positive follicles were significantly decreased after cisplatin administration, which was significantly reversed when mesna was co-administered with cisplatin. The end product of lipid peroxidation, malondialdehyde (MDA), was significantly increased, but the anti-oxidative enzymatic activity of superoxide dismutase (SOD) and glutathione (GSH) were significantly decreased in cisplatin groups when compared with NS group. In contrast, after co-administration of cisplatin with mesna, MDA was significantly decreased whereas the activity of SOD and the concentration of GSH were increased. Moreover, mesna did not decrease the anti-tumor property of cisplatin in HePG2 cell lines[2]. After head trauma, tissue malondialdehyde levels increased; these levels were significantly

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decreased by MESNA administration. Caspase-3 levels were increased after trauma, but no effect of MESNA was determined in caspase-3 activity[1]. Clinical trial: Effects of Mesna on Homocysteine in Kidney Failure . Phase2

### References:

- [1]. Yilmaz ER, Kertmen H, Güner 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]. Bogush TA, Smirnova GB, Chmutin EF, Effect of MESNA on intracellular accumulation of doxorubicin and its interaction with DNA. Antibiot Khimioter. 1994 Sep-Oct;39(9-10):30-5.

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