

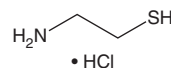
PRODUCT INFORMATION



Cysteamine (hydrochloride)

Item No. 22193

CAS Registry No.: 156-57-0
Formal Name: 2-amino-ethanethiol, monohydrochloride
Synonyms: CI-9148, β-Mercaptoethylamine,
MF: C₂H₇NS • HCl
FW: 113.6
Purity: ≥95%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Cysteamine (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the cysteamine (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Cysteamine (hydrochloride) is soluble in the organic solvent DMSO at a concentration of approximately 5 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of cysteamine (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of cysteamine (hydrochloride) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Cysteamine is a stable aminothiols with radioprotective activities.¹ It reduces ionizing radiation-induced death and chromosomal damage in mice in a dose-dependent manner.^{1,2} Cysteamine binds rapidly and temporarily to plasma proteins upon administration and this activity is directly correlated to its radioprotective effects.² *In vitro*, 0.1 mM cysteamine depletes 90% of free cystine from cystinotic fibroblasts.³ Formulations containing cysteamine have been used to treat nephropathic cystinosis and reduce glomerular deterioration in humans.⁴

References

1. Nelson, A. The protective effect of cysteamine on young mice exposed to roentgen rays. *Acta. Radiol.* **42(6)**, 485-493 (1954).
2. Devik, F. and Lothe, F. The effect of cysteamine, cystamine and hypoxia on mortality and bone marrow chromosome aberrations in mice after total body roentgen irradiation. *Acta. Radiol.* **44(3)**, 243-248 (1955).
3. Thoene, J.G., Oshima, R.G., Crawhall, J.C., *et al.* Cystinosis. Intracellular cystine depletion by aminothiols *in vitro* and *in vivo*. *J. Clin. Invest.* **58(1)**, 180-189 (1976).
4. Gahl, W.A., Schneider, J.A., Schulman, J.D., *et al.* Predicted reciprocal serum creatinine at age 10 years as a measure of renal function in children with nephropathic cystinosis treated with oral cysteamine. *Pediatr. Nephrol.* **4(2)**, 129-135 (1990).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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