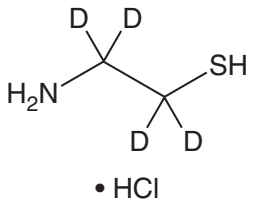
PRODUCT INFORMATION

Cysteamine-d_4 (hydrochloride)

Item No. 33297

CAS Registry No.: 1219805-04-5
Formal Name: 2-amino-ethanethiol-d_4, monohydrochloride
Synonym: β-Mercaptoethylamine-d_4
MF: $C_2H_3D_4NS \bullet HCl$
FW: 117.6
Chemical Purity: ≥95% (Cysteamine (hydrochloride))
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_4); ≤1% d_0
Supplied as: A 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-d_4 (hydrochloride) is intended for use as an internal standard for the quantification of cysteamine (hydrochloride) (Item No. 22193) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Cysteamine-d_4 (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the cysteamine-d_4 (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Cysteamine-d_4 (hydrochloride) is slightly soluble in methanol and DMSO.

Description

Cysteamine is a stable aminothiol 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.

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).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM