

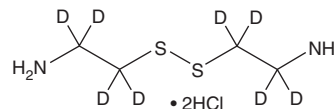
# PRODUCT INFORMATION



## Cystamine-d<sub>8</sub> (hydrochloride)

Item No. 26775

**CAS Registry No.:** 2712126-51-5  
**Formal Name:** 2,2'-disulfanediybis(ethan-1,1,2,2-d<sub>4</sub>-1-amine), dihydrochloride  
**MF:** C<sub>4</sub>H<sub>4</sub>D<sub>8</sub>N<sub>2</sub>S<sub>2</sub> • 2HCl  
**FW:** 233.3  
**Chemical Purity:** ≥98% (Cystamine)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>8</sub>); ≤1% d<sub>0</sub>  
**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

Cystamine-d<sub>8</sub> (hydrochloride) is intended for use as an internal standard for the quantification of cystamine (Item No. 14882) 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).

Cystamine-d<sub>8</sub> (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the cystamine-d<sub>8</sub> (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Cystamine-d<sub>8</sub> (hydrochloride) is soluble in the organic solvent DMSO at a concentration of approximately 5 mg/ml.

### Description

Cystamine is an organic disulfide that inhibits tissue transglutaminase (TGM2) with an IC<sub>50</sub> value of approximately 2.5 mM.<sup>1</sup> It is orally available and is neuroprotective in mouse models of Huntington's disease.<sup>2,3</sup> Cystamine also inhibits caspase-3, increases intracellular glutathione, and reduces inflammation in a rat model of inflammatory bowel disease.<sup>4</sup>

### References

1. Smethurst, P.A. and Griffin, M. Measurement of tissue transglutaminase activity in a permeabilized cell system: Its regulation by Ca<sup>2+</sup> and nucleotides. *Biochem. J.* **313**(pt 3), 803-808 (1996).
2. Dedeoglou, A., Kubilus, J.K., Jeitner, T.M., et al. Therapeutic effects of cystamine in a murine model of Huntington's disease. *J. Neurosci.* **22**(20), 8942-8950 (2002).
3. Borrell-Pagès, M., Canals, K.P., Cordelières, F.P., et al. Cystamine and cysteamine increase brain levels of BDNF in Huntington disease via HSJ1b and transglutaminase. *J. Clin. Invest.* **116**(5), 1410-1424 (2006).
4. Elli, L., Ciulla, M.M., Busca, G., et al. Beneficial effects of treatment with transglutaminase inhibitor cystamine on the severity of inflammation in a rat model of inflammatory bowel disease. *Lab. Invest.* **91**(3), 452-461 (2011).

#### 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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