

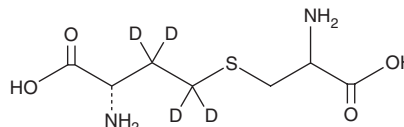
# PRODUCT INFORMATION



## Cystathionine-d<sub>4</sub>

Item No. 36610

**Formal Name:** S-(2-amino-2-carboxyethyl)-L-homocysteine-3,3,4,4-d<sub>4</sub>  
**Synonym:** Allocystathionine-d<sub>4</sub>  
**MF:** C<sub>7</sub>H<sub>10</sub>D<sub>4</sub>N<sub>2</sub>O<sub>4</sub>S  
**FW:** 226.3  
**Chemical Purity:** ≥95% (Cystathionine)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>4</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

Cystathionine-d<sub>4</sub> is intended for use as an internal standard for the quantification of cystathionine (Item Nos. 17819 | 16061) 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).

### Description

Cystathionine is an intermediate in the biosynthesis of cysteine that is composed of homocysteine and serine.<sup>1,2</sup> It has four potential isomers, L-cystathionine, D-cystathionine, L-allocystathionine, and D-allocystathionine.<sup>3</sup> Dietary administration of L-allocystathionine (0.74%) or the naturally occurring L-cystathionine (0.74%) substitute for cystine and increase the body weight of growing rats.

### References

1. Steegborn, C., Clausen, T., Sondermann, P., *et al.* Kinetics and inhibition of recombinant human cystathionine  $\gamma$ -lyase. Toward the rational control of transsulfuration. *J. Biol. Chem.* **274**(18), 12675-12684 (1999).
2. Finkelstein, J.D. The metabolism of homocysteine: Pathways and regulation. *Eur. J. Pediatr.* **157**(Suppl 2), S40-S44 (1998).
3. Anslow, W.P., Jr., Simmonds, S., and Du Vigneaud, V. The synthesis of the isomers of cystathionine and a study of their availability in sulfur metabolism. *J. Biol. Chem.* **166**(1), 35-45 (1946).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

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