

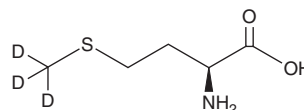
PRODUCT INFORMATION



L-Methionine-d₃

Item No. 34826

CAS Registry No.: 13010-53-2
Formal Name: S-(methyl-d₃)-L-homocysteine
Synonym: (S)-Methionine-d₃
MF: C₅H₈D₃NO₂S
FW: 152.2
Chemical Purity: ≥95% (L-methionine)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₃); ≤1% d₀
UV/Vis.: λ_{max}: 570 nm
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

L-Methionine-d₃ is intended for use as an internal standard for the quantification of L-methionine 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

L-Methionine is an essential amino acid.^{1,2} It is catabolized by methionine adenosyltransferase 2A (MAT2A), yielding the universal methyl donor S-(5'-adenosyl-L-methionine (SAM; Item Nos. 16376 | 17595).² L-methionine has roles in purine and pyrimidine synthesis, polyamine synthesis, and glutathione production, as well as in various metabolic diseases and aging. Dietary methionine restriction (MR) prevents accelerated aging in a mouse model of progeria and increases the lifespan of yeast, *Drosophila*, *C. elegans*, mice, and rats.^{1,2} MR also improves insulin sensitivity and reduces adiposity in mice, as well as inhibits the growth and proliferation of several cancer cell lines.

References

1. Wanders, D., Hobson, K., and Ji, X. Methionine restriction and cancer biology. *Nutrients* **12**(3), 684 (2020).
2. Sanderson, S.M., Gao, X., Dai, Z., *et al.* Methionine metabolism in health and cancer: A nexus of diet and precision medicine. *Nat. Rev. Cancer* **19**(11), 625-637 (2019).

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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