

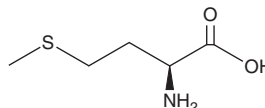
# PRODUCT INFORMATION



## L-Methionine

Item No. 31721

**CAS Registry No.:** 63-68-3  
**Synonym:** (S)-Methionine  
**MF:** C<sub>5</sub>H<sub>11</sub>NO<sub>2</sub>S  
**FW:** 149.2  
**Purity:** ≥98%  
**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 is supplied as a solid. Aqueous solutions of L-methionine can be prepared by directly dissolving the solid in aqueous buffers. L-Methionine is sparingly soluble (1-10 mg/ml) in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

### Description

L-Methionine is an essential amino acid.<sup>1,2</sup> It is catabolized by methionine adenosyltransferase 2A (MAT2A), yielding the universal methyl donor S-adenosyl-L-methionine (SAM; Item Nos. 16376 | 17595).<sup>2</sup> 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.<sup>1,2</sup> 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.

#### WARRANTY AND LIMITATION OF REMEDY

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