

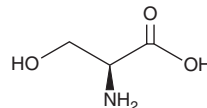
# PRODUCT INFORMATION



## L-Serine

Item No. 33561

**CAS Registry No.:** 56-45-1  
**Synonym:** (S)-Serine  
**MF:** C<sub>3</sub>H<sub>7</sub>NO<sub>3</sub>  
**FW:** 105.1  
**Purity:** ≥95%  
**Supplied as:** A crystalline 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-Serine is supplied as a crystalline solid. A stock solution may be made by dissolving the L-serine in the solvent of choice, which should be purged with an inert gas. L-Serine is soluble in DMSO.

### Description

L-Serine is a non-essential amino acid.<sup>1</sup> It is produced from 3-phosphoglycerate in a multistep biosynthesis catalyzed by phosphoglycerate dehydrogenase (PGDH), phosphoserine aminotransferase (PSAT), and phosphoserine phosphatase (PSP). L-Serine can also be derived from dietary sources, as well as protein and phospholipid turnover. Defective L-serine biosynthesis is associated with neural tube defects and deoxysphingolipid accumulation in patients with Neu-Laxova syndrome, a rare disease characterized by a mutation in *PGDH*.<sup>1,2</sup> Dysregulation of L-serine phosphorylation is associated with disease progression in patients with neurodegenerative diseases, including Alzheimer's disease and amyotrophic lateral sclerosis.

### References

1. Holm, L.J., and Buschard, K. L-serine: A neglected amino acid with a potential therapeutic role in diabetes. *APMIS* **127(10)**, 655-659 (2019).
2. Metcalf, J.S., Dunlop, R.A., Powell, J.T., et al. L-serine: A naturally-occurring amino acid with therapeutic potential. *Neurotox. Res.* **33(1)**, 213-221 (2018).

#### 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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