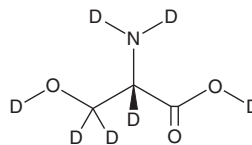


PRODUCT INFORMATION



L-Serine-d₇ Item No. 34827

CAS Registry No.: 935275-35-7
Formal Name: L-serine-N,N,O,1,2,3,3-d₇
Synonym: (S)-Serine-d₇
MF: C₃D₇NO₃
FW: 112.1
Chemical Purity: ≥98% (L-Serine)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₇); ≤1% d₀
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-Serine-d₇ is intended for use as an internal standard for the quantification of L-serine (Item No. 33561) 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-Serine is a non-essential amino acid.¹ 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*.^{1,2} Dysregulation of L-serine phosphorylation is associated with disease progression in patients with neurodegenerative diseases, including Alzheimer's disease and amyotrophic lateral sclerosis.

References

- 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).
- 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.

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