

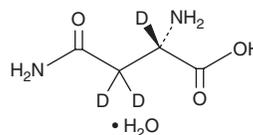
PRODUCT INFORMATION



L-Asparagine-d₃ (hydrate)

Item No. 34835

CAS Registry No.: 2483831-59-8
Formal Name: L-asparagine-2,3,3-d₃, monohydrate
MF: C₄H₅D₃N₂O₃ • H₂O
FW: 153.2
Chemical Purity: ≥98% (L-Asparagine)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₃); ≤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-Asparagine-d₃ (hydrate) is intended for use as an internal standard for the quantification of L-asparagine (Item No. 34519) 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-Asparagine is a non-essential amino acid.¹ It is formed from L-aspartic acid and L-glutamine (Item No. 23716) by asparagine synthetase (ASNS), and it is deamidated by L-asparaginase to produce L-aspartic acid and ammonia.^{2,3} L-Asparagine (0.3 mM) reverses ASNS siRNA knockdown-induced decreases in proliferation in a panel of six human cancer cell lines, indicating that both exogenous and endogenous L-asparagine promote proliferation of these cells.⁴ Formulations containing L-asparagine have been used as dietary supplements.

References

1. Chiu, M.I., Taurino, G., Bianchi, M.G., *et al.* Asparagine synthetase in cancer: Beyond acute lymphoblastic leukemia. *Front. Oncol.* **9**, 1480 (2020).
2. Zhu, W., Radadiya, A., Bisson, C., *et al.* High-resolution crystal structure of human asparagine synthetase enables analysis of inhibitor binding and selectivity. *Commun. Biol.* **2**, 345 (2019).
3. Covini, D., Tardito, S., Bussolati, O., *et al.* Expanding targets for a metabolic therapy of cancer: L-Asparaginase. *Recent Pat. Anticancer Drug Discov.* **7(1)**, 4-13 (2012).
4. Pathria, G., Lee, J.S., Hasnis, E., *et al.* Translational reprogramming marks adaptation to asparagine restriction in cancer. *Nat. Cell Biol.* **21(12)**, 1590-1603 (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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