

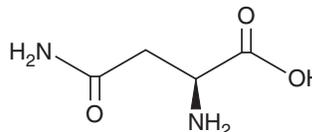
# PRODUCT INFORMATION



## L-Asparagine

Item No. 35022

**CAS Registry No.:** 70-47-3  
**Synonyms:**  $\alpha$ -Aminosuccinic Acid, (-)-Asparagine, (S)-Asparagine, NSC 82391  
**MF:** C<sub>4</sub>H<sub>8</sub>N<sub>2</sub>O<sub>3</sub>  
**FW:** 132.1  
**Purity:**  $\geq$ 95%  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:**  $\geq$ 4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

L-Asparagine is supplied as a solid. Aqueous solutions of L-asparagine can be prepared by directly dissolving the solid in aqueous buffers. The solubility of L-asparagine in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

L-Asparagine is a non-essential amino acid.<sup>1</sup> 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.<sup>2,3</sup> 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.<sup>4</sup> 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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