

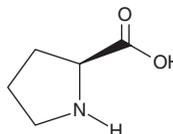
PRODUCT INFORMATION



L-Proline

Item No. 30772

CAS Registry No.: 147-85-3
Synonyms: (S)-(-)-Proline, L(-)-Proline, NSC 46703
MF: C₅H₉NO₂
FW: 115.1
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-Proline is supplied as a crystalline solid. Aqueous solutions of L-proline can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of L-proline in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

L-Proline is a nonessential amino acid.¹ It contains a pyrrolidine ring, which contains the α-amino nitrogen, and is highly rigid, properties that affect protein conformation and folding and can cause kinks and turns in protein secondary structure.^{2,3} It is a substrate for the proton-coupled amino acid transporter 1 (PAT1) and an inhibitor of acetylcholinesterase (AChE; K_i = 86 μM).^{3,4} L-Proline accumulates in plants under environmental stress and is important for environmental stress tolerance through its involvement in protein synthesis, redox balance maintenance, osmoprotection, and signaling.⁵

References

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2. MacArthur, M.W. and Thornton, J.M. Influence of proline residues on protein conformation. *J. Mol. Biol.* **218(2)**, 397-412 (1991).
3. Thondorf, I., Voigt, V., Schäfer, S., *et al.* Three-dimensional quantitative structure-activity relationship analyses of substrates of the human proton-coupled amino acid transporter 1 (hPAT1). *Bioorg. Med. Chem.* **19(21)**, 6409-6418 (2011).
4. Végner, L., Peragovics, Á., Tombor, L., *et al.* Experimental confirmation of new drug-target interactions predicted by drug profile matching. *J. Med. Chem.* **56(21)**, 8377-8388 (2013).
5. Szabados, L. and Savouré, A. Proline: A multifunctional amino acid. *Trends Plant Sci.* **15(2)**, 89-97 (2010).

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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