

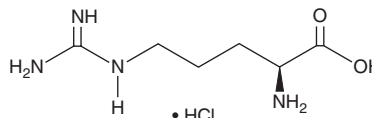
PRODUCT INFORMATION



L-Arginine (hydrochloride)

Item No. 23703

CAS Registry No.: 1119-34-2
Formal Name: L-arginine, monohydrochloride
Synonyms: L-(+)-Arginine, NSC 7914, NSC 203450
MF: C₆H₁₄N₄O₂ • HCl
FW: 210.7
Purity: ≥98%
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-Arginine (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the L-arginine (hydrochloride) in the solvent of choice, which should be purged with an inert gas. L-Arginine (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of L-arginine (hydrochloride) in ethanol and DMSO is approximately 3 mg/ml and approximately 5 mg/ml in DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of L-arginine (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. L-Arginine (hydrochloride) is freely soluble in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

Description

L-Arginine is an amino acid and precursor of nitric oxide (NO).¹ L-Arginine is a substrate for NO synthase that is oxidized to form NO and L-citrulline. It enhances NO release in porcine aortic endothelial cells treated with bradykinin (Item No. 15539) or A23187 (Item No. 11016).² L-Arginine (30 and 300 mg/kg, i.v.) induces dilation of pial arterioles and increases cerebral blood flow in normotensive and spontaneously hypertensive rats.³ It also reduces infarct size by 35 and 28% in normotensive and spontaneously hypertensive rats, respectively, following middle cerebral artery occlusion.

References

1. Stuehr, D.J. Enzymes of the L-arginine to nitric oxide pathway. *J. Nutr.* **134(10)**, 2748S-2751S (2004).
2. Palmer, R.M.J., Ashton, D.S., and Moncada, S. Vascular endothelial cells synthesize nitric oxide from L-arginine. *Nature* **333(6174)**, 664-666 (1988).
3. Morikawa, E., Moskowitz, M.A., Huang, Z., et al. L-arginine infusion promotes nitric oxide-dependent vasodilation, increases regional cerebral blood flow, and reduces infarction volume in the rat. *Stroke* **25(2)**, 429-435 (1994).

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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