

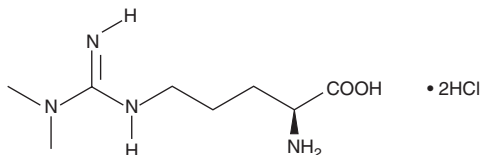
PRODUCT INFORMATION



N^G, N^G -dimethyl-L-Arginine (hydrochloride)

Item No. 80230

CAS Registry No.: 220805-22-1
Formal Name: N^5 -[(dimethylamino)iminomethyl]-L-ornithine, dihydrochloride
Synonyms: ADMA, Asymmetric dimethylarginine
MF: $C_8H_{18}N_4O_2 \cdot 2HCl$
FW: 275.2
Purity: $\geq 95\%$
Supplied as: A crystalline solid
Storage: $-20^\circ C$
Stability: ≥ 4 years



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

Laboratory Procedures

N^G, N^G -dimethyl-L-Arginine (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the N^G, N^G -dimethyl-L-Arginine (hydrochloride) in the solvent of choice, which should be purged with an inert gas. N^G, N^G -dimethyl-L-Arginine (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). It is also soluble in water. The solubility of N^G, N^G -dimethyl-L-Arginine (hydrochloride) in ethanol and DMSO is approximately 3 mg/ml, approximately 5 mg/ml in DMF, and approximately 20 mg/ml in water. We do not recommend storing the aqueous solution for more than one day.

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 N^G, N^G -dimethyl-L-Arginine (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of N^G, N^G -dimethyl-L-arginine (hydrochloride) in PBS (pH 7.2) is approximately 20 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

N^G, N^G -dimethyl-L-arginine (ADMA) is an endogenous inhibitor of nitric oxide synthase (NOS).^{1,2} It is formed from arginine by protein arginine methyltransferases (PRMTs) and degraded by dimethylarginine dimethylaminohydrolases (DDAHs) and alanine-glyoxylate aminotransferase 2 (AGXT2).¹ ADMA levels are increased concomitant with an increase in blood pressure in Dahl salt-sensitive rats fed a high-salt diet.² ADMA levels are increased in the plasma in a variety of endothelial dysfunction-related diseases, including hypertension, congestive heart failure, and end-stage renal disease.^{1,3,4}

References

1. Sydow, K. and Münzel, T. ADMA and oxidative stress. *Atheroscler. Suppl.* **4(4)**, 41-51 (2003).
2. Jin, J.S. and D'Alecy, L.G. Central and peripheral effects of asymmetric dimethylarginine, an endogenous nitric oxide synthetase inhibitor. *J. Cardiovasc. Pharmacol.* **28(3)**, 439-446 (1996).
3. Vallance, P., Leone, A., Calver, A., *et al.* Accumulation of an endogenous inhibitor of nitric oxide synthesis in chronic renal failure. *Lancet* **339(8793)**, 572-575 (1992).
4. Matsuoka, H., Itoh, S., Kimoto, M., *et al.* Asymmetrical dimethylarginine, an endogenous nitric oxide synthase inhibitor, in experimental hypertension. *Hypertension* **29(1 Pt 2)**, 242-247 (1997).

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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