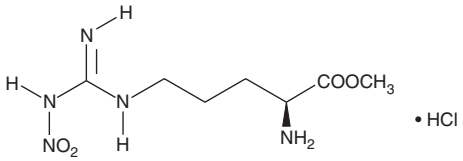
PRODUCT INFORMATION

L-NAME (hydrochloride)

Item No. 80210

CAS Registry No.: 51298-62-5
Formal Name: N^5-[imino(nitroamino)methyl]-L-ornithine, methyl ester, monohydrochloride
Synonyms: L-N^G-Nitroarginine methyl ester, N(G)-Nitro-L-arginine methyl ester
MF: $C_7H_{15}N_5O_4 \bullet HCl$
FW: 269.7
Purity: ≥99%
Supplied as: A crystalline solid
Storage: -20°C
Stability: As supplied, 1 year from the QC date provided on the Certificate of Analysis, when stored properly



Laboratory Procedures

L-NAME (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the L-NAME in an organic solvent purged with an inert gas. L-NAME is soluble in organic solvents such as methanol, DMSO, and dimethyl formamide (DMF). The solubility of L-NAME in methanol is approximately 10 mg/ml and approximately 5 mg/ml in DMSO and 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-NAME can be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of L-NAME in PBS (pH 7.2) is approximately 30 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

L-NAME requires hydrolysis of the methyl ester by cellular esterases to become a fully functional inhibitor (L-NNA).[1] L-NNA exhibits some selectivity for inhibition of neuronal and endothelial isoforms. It exhibits K_i values of 15 nM, 39 nM, and 4.4 µM for nNos (bovine), eNOS (human), and iNOS (mouse), respectively.[2-4] The reported K_i value for the inhibition of iNOS range from 4-65 µM.[3,5] L-NAME inhibits cGMP formation in endothelial cells with an IC_{50} of 3.1 µM (in the presence of 30 µM arginine) and reverses the vasodilation effects of acetylcholine in rat aorta rings with an EC_{50} of 0.54 µM.[6,7]

References

1. Griffith, O.W. and Kilbourn, R.G. *Methods Enzymol.* **268**, 375-392 (1996).
2. Buckner, C.K., Saban, R., Castleman, W.L., et al. *Ann. N.Y. Acad. Sci.* **524**, 181-186 (1988).
3. Furfine, E.S., Harmon, M.F., Paith, J.E., *et al. Biochemistry* **32**, 8512-8517 (1993).
4. Garvey, E.P., Tuttle, J.V., Covington, K., *et al. Arch. Biochem. Biophys.* **311**, 235-241 (1994).
5. Abu-Soud, H.M., Feldman, P.L., Clark, P., *et al. J. Biol. Chem.* **269**, 32318-32326 (1994).
6. Rees, D.D., Palmer, R.M.J., Schulz, R., *et al. Br. J. Pharmacol.* **101**, 746-752 (1990).
7. Moore, P.K., al-Swayeth, O.A., Chong, N.W.S., *et al. Br. J. Pharmacol.* **99**, 408-412 (1990).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM