

L-NAME hydrochloride

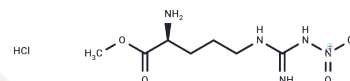
Chemical Properties

CAS No. : 51298-62-5

Formula: C₇H₁₅N₅O₄·HCl

Molecular Weight: 269.69

Appearance: no data available

Storage: store at low temperature
Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

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| Description | L-NAME hydrochloride (L-NAME HCl), a cell-permeable NO synthase inhibitor, displays Ki values of 4.4 μM, 15 nM, and 39 nM, for iNOS (mouse) , nNOS (bovine) , and eNOS (human), respectively. |
| Targets(IC50) | NOS,NO Synthase |
| In vivo | L-NAME (0.03-300 mg kg ⁻¹ , i.v.) induces a dose-dependent increase in mean systemic arterial blood pressure accompanied by bradycardia. L-NAME (100 mg kg ⁻¹ , i.v.) inhibits significantly the hypotensive responses to ACh and bradykinin. The increase in blood pressure and bradycardia produced by L-NAME is reversed by L-arginine (30-100 mg kg ⁻¹ , i.v.) in a dose-dependent manner. [2] |
| Kinase Assay | Enzyme Assay: The oxidation of L-arginine is monitored by the conversion of [3H]- or [14C]-arginine to L-citrulline which separates L-citrulline from L-arginine by Dowex 50x8-200 (Na) chromatography. Typical reaction mixtures (100 pL) contains 50 mM HEPES, pH 7.0, 8 pM tetrahydrobiopterin, 1 mM CaCl ₂ , 0.01 mg/mL calmodulin, 0.5 mM EDTA, 0.450 pM [14C]-arginine (30000 cpm), and 100-200 pM NADPH. The cNOS-catalyzed oxidation of NADPH to NADP ⁺ is monitored by the reduction of absorbance at 340 nm with a Kontron 860 spectrophotometer in a volume of 300 pL. All reactions are at 30 °C unless otherwise indicated. |
| Cell Research | rMC-1 cells are incubated in 5 or 25 mM glucose, with or without l-NAME (1 mM). Media is changed every other day for up to 5 days. BREC cells are incubated in 5 or 25 mM glucose as well as inhibitor as described above for 5 days. Cell death is determined by light microscopy using a hemocytometer and a 0.4% trypan blue dye exclusion method. The number of cells that do not exclude the dye is expressed per 1,000 total cells. A minimum of 800 cells is counted per assay (8 dishes, >100 cells counted per dish), and the assay is replicated three times on different days. (Only for Reference) |

Solubility Information

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| Solubility | DMSO: 50 mg/mL (185.4 mM),Sonication is recommended. H ₂ O: 27 mg/mL (100.11 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble) |
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A DRUG SCREENING EXPERT

Preparing Stock Solutions

| | 1mg | 5mg | 10mg |
|-------|-----------|------------|------------|
| 1 mM | 3.708 mL | 18.5398 mL | 37.0796 mL |
| 5 mM | 0.7416 mL | 3.708 mL | 7.4159 mL |
| 10 mM | 0.3708 mL | 1.854 mL | 3.708 mL |
| 50 mM | 0.0742 mL | 0.3708 mL | 0.7416 mL |

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Reference

Furfine ES, et al. Biochemistry, 1993, 32(33), 8512-8517.

Rees DD, et al. Br J Pharmacol, 1990, 101(3), 746-752.

Du Y, et al. J Physiol Regul Integr Comp Physiol, 2004, 287(4), R735-R741.

Heggors JP, et al. J Altern Complement Med, 1997, 3(2), 149-153.

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