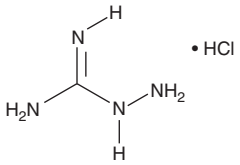
PRODUCT INFORMATION

Aminoguanidine (hydrochloride)

Item No. 81530

CAS Registry No.: 1937-19-5
Formal Name: hydrazinecarboximidamide, monohydrochloride
Synonyms: Aminoguanidinium chloride, GER 11, Pimagedine
MF: $CH_6N_4 \bullet HCl$
FW: 110.5
Purity: ≥98%
Supplied as: A crystalline solid
Storage: Room temperature
Stability: ≥4 years



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

Laboratory Procedures

Aminoguanidine (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the aminoguanidine (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Aminoguanidine (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of aminoguanidine (hydrochloride) in these solvents is approximately 1.6, 5.5, and 5 mg/ml, respectively.

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 aminoguanidine (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of aminoguanidine (hydrochloride) in PBS (pH 7.2) is approximately 100 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Aminoguanidine is equipotent to L-NMMA and L-NNA as an inhibitor of iNOS.[1,2] The IC_{50} values for inhibition of mouse iNOS and rat nNOS are 5.4 and 160 µM, respectively.[2] Aminoguanidine also inhibits induction of iNOS protein expression by endotoxin in rat macrophages.[3]

References

1. Joly, G.A., Ayres, M., Chelly, F., *et al.* Effects of NG-methyl-L-arginine, NG-nitro-L-arginine, and aminoguanidine on constitutive and inducible nitric oxide synthase in rat aorta. *Biochem. Biophys. Res. Commun.* **199(1)**, 147-154 (1994).
2. Misko, T.P., Moore, W.M., Kasten, T.P., *et al.* Selective inhibition of the inducible nitric oxide synthase by aminoguanidine. *Eur. J. Pharmacol.* **233(1)**, 119-125 (1993).
3. Ruetten, H. and Thiemermann, C. Prevention of the expression of inducible nitric oxide synthase by aminoguanidine or aminoethyl-isothiourea in macrophages and in the rat. *Biochem. Biophys. Res. Commun.* **225(2)**, 525-530 (1996).

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