

Aminoguanidine hemisulfate salt

Product Number **A7009**

Store at Room Temperature

Product Description

Molecular Formula: $\text{CH}_6\text{N}_4 \bullet 0.5\text{H}_2\text{O}_4\text{S}$

Molecular Weight: 123.1

CAS Number: 996-19-0

This product is a selective inhibitor of inducible nitric oxide (NO) synthase (NOS).¹ This is in contrast to the standard inhibitors of nitric oxide synthase, including L-N^G-methyl-L-arginine acetate (Product no. M 7033), which do not distinguish between the inducible forms (calcium-independent enzyme in vascular endothelium cells) and constitutive forms (continuously present, but not always active, calcium/calmodulin dependent enzyme of neuronal cells) of nitric oxide synthase.

In addition to inhibition of inducible NOS, this product has been shown to selectively inhibit the cytokine-inducible isoform of NO synthase, responsible for the excess production of NO implicated in the pathogenesis of a variety of inflammatory and immunologically mediated diseases, as well as complications of diabetes. Aminoguanidine was shown to have the same potency as N^G-monomethyl-L-arginine as an inhibitor of the cytokine-induced isoform of NO synthase, but was 10 to 100-fold less potent as an inhibitor of the constitutive isoform.² Therefore, this product may be useful in the treatment of the disease states caused by an overproduction of NO.

This product has also been shown to affect rat liver arginase³ as well as play a role in the respiratory cytopathology of pertussis.⁴

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Storage/Stability

This product is soluble in water (50 mg/ml).

References

1. Griffiths, M.J., et al., Aminoguanidine selectively inhibits inducible nitric oxide synthase. *Br. J. Pharmacol.*, **110**(3), 963-968 (1993).
2. Misko, T.P. et al., Selective inhibition of the inducible nitric oxide synthase by aminoguanidine. *European J. Pharmacology*, **233**, 119-125 (1993).
3. Robertson, C.A., et al., Effect of nitric oxide synthase substrate analog inhibitors on rat liver arginase. *Biochem. Biophys. Res. Commun.*, **197**(2), 523-528 (1993).
4. Heiss, L.N., et al., Epithelial autotoxicity of nitric oxide: role in the respiratory cytopathology of pertussis. *Proc. Natl. Acad. Sci. USA*, **91**(1), 267-270 (1994).

CMH/NSB 5/08

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