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Product Information

4-Aminopyridine

Product Code **A7,840-3**

Store at Room Temperature

Replacement for Product Number A 0152

Product Description

Molecular Formula: $C_5H_6N_2$

Molecular Weight: 94.12

CAS Number: 504-24-5

Melting Point: 158-159 °C¹

λ_{max} : 263 nm (0.1 M HCl)¹, 262 nm (0.1 M HCl)³

Extinction Coefficient: $E^{mM} = 16.6$ (0.1 M HCl),¹
17.4 (0.1 M HCl)³

Synonyms: fampridine, 4-pyridinamine,
4-pyridylamine, 4-AP¹

4-aminopyridine (4-AP) is a non-selective potassium channel blocker. It reverses saxitoxin and tetrodotoxin induced cardiorespiratory depression.⁴ 4-AP increases stimulation-induced release of acetylcholine and induces depolarization of GABA neurons.⁵

An investigation into two different potassium channels which have different state dependencies of 4-AP binding has been reported.⁶ The effect of 4-AP on contractile tone and responses to the spasmogens 5-hydroxytryptamine and endothelin 1 in rats with and without hypoxic pulmonary hypertension has been studied.⁷ A study of the induction of epileptiform activity with 4-aminopyridine in rats with absence epilepsy has been published.⁸

Precautions and Disclaimer

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

Preparation Instructions

This product is soluble in water (50 mg/ml), with heat as needed, yielding a clear, colorless to very faint yellow solution.

References

1. The Merck Index, 12th ed., Entry# 3974.
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3. Weisstuch, A., and Testa, A. C., A Fluorescence Study of Aminopyridines. *J. Phys. Chem.*, **72**, 1982-1987 (1968).
4. Chang, F. C., et al., 4-Aminopyridine antagonizes saxitoxin-and tetrodotoxin-induced cardiorespiratory depression. *Toxicol.*, **34(6)**, 671-690 (1996).
5. Herrero, M. T., et al., Effect of various depolarizing agents on endogenous amino acid neurotransmitter release in rat cortical neurons in culture. *Neurochem. Int.*, **32(3)**, 257-264 (1998).
6. Tseng, G. N., Different state dependencies of 4-aminopyridine binding to rKv1.4 and rKv4.2: role of the cytoplasmic halves of the fifth and sixth transmembrane segments. *J. Pharmacol. Exp. Ther.*, **290(2)**, 569-577 (1999).
7. Doggrell, S. A., et al., Functional effects of 4-aminopyridine (4-AP) on pulmonary and systemic vessels from normoxic control and hypoxic pulmonary hypertensive rats. *Naunyn Schmiedebergs Arch. Pharmacol.*, **360(3)**, 317-323 (1999).
8. Armand, V., et al., Epileptiform activity induced by 4-aminopyridine in entorhinal cortex hippocampal slices of rats with a genetically determined absence epilepsy (GAERS). *Brain Res.*, **841**, 62-69 (1999).

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