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ProductInformation

4-Aminopyridine

Product Number **A 0152**
Store at Room Temperature

Product Description

Molecular Formula: $C_5H_6N_2$
Molecular Weight: 94.12
CAS Number: 504-24-5
Melting Point: 158-159 °C[1]
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-AP[1]

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

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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. Toxicon, **34(6)**, 671-690 (1996).
5. Herrerro, 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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