

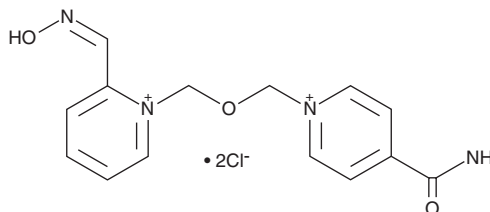
PRODUCT INFORMATION



Asoxime (chloride)

Item No. 18607

CAS Registry No.: 34433-31-3
Formal Name: 1-[[[4-(aminocarbonyl)pyridinio]methoxy]methyl]-2-[(hydroxyimino)methyl]-pyridinium, dichloride
Synonym: HI-6
MF: C₁₄H₁₆N₄O₃ • 2Cl
FW: 359.2
Purity: ≥95%
UV/Vis.: λ_{max}: 217, 300 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Asoxime (chloride) is supplied as a crystalline solid. Asoxime (chloride) is sparingly soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. For biological experiments, we suggest that organic solvent-free aqueous solutions of asoxime (chloride) be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of asoxime (chloride) in PBS, pH 7.2, is approximately 10 mg/ml.

Description

Organophosphates inactivate acetylcholinesterase (AChE) by reacting covalently with the active center serine, thus inhibiting its action of hydrolyzing acetylcholine at central and peripheral synapses. Acetylcholine accumulation results in an over-stimulation of cholinergic receptors, which can disrupt numerous biological functions. Asoxime is an asymmetric bis-pyridinium aldoxime that functions as an AChE reactivator through nucleophilic attack of oximate anions on organophosphate-AChE conjugates.¹ It demonstrates therapeutic activity in experimental models of organophosphate poisoning, by reactivating phosphorylated AChE that was inhibited as a result of exposure to various cytotoxic nerve agents.^{2,3}

References

1. Wong, L., Radic, Z., Brüggermann, R.J.M., *et al.* Mechanism of oxime reactivation of acetylcholinesterase analyzed by chirality and mutagenesis. *Biochemistry* **39**(19), 5750-5757 (2000).
2. RamaRao, G., Afley, P., Acharya, J., *et al.* Efficacy of antidotes (midazolam, atropine and HI-6) on nerve agent induced molecular and neuropathological changes. *BMC Neurosci.* **15** (2014).
3. Cochran, R., Kalisiak, J., Küëükilinen, T., *et al.* Oxime-assisted acetylcholinesterase catalytic scavengers of organophosphates that resist aging. *J. Biol. Chem.* **286**(34), 29718-29724 (2011).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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