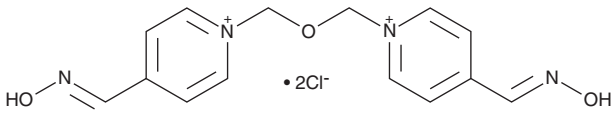
PRODUCT INFORMATION

Obidoxime (chloride)

Item No. 36587

CAS Registry No.:	114-90-9
Formal Name:	1,1′-[oxy*bis*(methylene)]*bis*[4-[(hydroxyimino) methyl]-pyridinium, dichloride
Synonym:	Toxogonin
MF:	$C_{14}H_{16}N_4O_3 \bullet 2Cl$
FW:	359.2
Purity:	≥95%
UV/Vis.:	λ_{max}: 301 nm
Supplied as:	A 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

Obidoxime (chloride) is supplied as a solid. A stock solution may be made by dissolving the obidoxime (chloride) in the solvent of choice, which should be purged with an inert gas. Obidoxime (chloride) is slightly soluble in DMSO and dimethyl formamide.

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 obidoxime (chloride) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of obidoxime (chloride) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Obidoxime is an acetylcholinesterase (AChE) modulator.[1] It induces inhibition and activation of bovine erythrocyte AChE in the presence and absence of ACh, respectively, when used at a concentration of 3 mM. Obidoxime (10.5 mg/kg) induces reactivation of tabun-inhibited AChE in rat blood and diaphragm and reduces tabun-induced lethality in mice.[2] Intranasal administration of obidoxime reduces seizure duration and severity and prevents mortality in a rat model of paraoxon-induced organophosphate poisoning.[3]

References

1. Kuhnen, H. Activating and inhibitory effects of bispyridinium compounds on bovine red cell acetylcholinesterase. *Toxicol. Appl. Pharmacol.* **20(1)**, 97-104 (1971).
2. Kassa, J., Karasova, J., Musilek, K., *et al.* An evaluation of therapeutic and reactivating effects of newly developed oximes (K156, K203) and commonly used oximes (obidoxime, trimedoxime, HI-6) in tabun-poisoned rats and mice. *Toxicology* **243(3)**, 311-316 (2008).
3. Krishnan, J.K.S., Arun, P., Appu, A.P., *et al.* Intranasal delivery of obidoxime to the brain prevents mortality and CNS damage from organophosphate poisoning. *Neurotoxicology* **53**, 64-73 (2016).

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