Pralidoxime chloride

Cat. No.: HY-B1200

CAS No.: 51-15-0

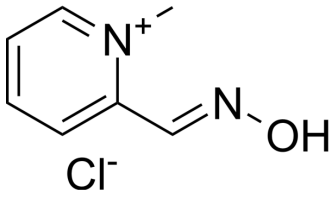
Molecular Formula: $C_7H_9ClN_2O$

Molecular Weight: 172.61

Target: Cholinesterase (ChE)

Pathway: Neuronal Signaling

Storage: 4°C, sealed storage, away from moisture
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

H_2O : ≥ 100 mg/mL (579.34 mM)
DMSO : 21.67 mg/mL (125.54 mM; Need ultrasonic)
* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	5.7934 mL	28.9670 mL	57.9341 mL
	5 mM	1.1587 mL	5.7934 mL	11.5868 mL
	10 mM	0.5793 mL	2.8967 mL	5.7934 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.17 mg/mL (12.57 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.17 mg/mL (12.57 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.17 mg/mL (12.57 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Pralidoxime chloride is a potent reactivator of acetylcholinesterase (AChE). Pralidoxime chloride reactivates nerve agent-inhibited AChE via direct nucleophilic attack by the oxime moiety on the phosphorus center of the bound nerve agent. Pralidoxime chloride is an antidote for organophosphate poisoning[1][2].

IC_{50} & Target

AChE

In Vivo

Pralidoxime chloride (10-150 mg/kg; intramuscular administration, once) reverses paraoxon-induced respiratory toxicity in

mice[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	F1B6D2 mice (male, administered subcutaneously diethylparaoxon)[3]
Dosage:	10, 50, 100, and 150 mg/kg
Administration:	Intramuscular administration, once
Result:	Induced a partial, albeit complete, reversal of respiratory toxicity at 50 mg/kg, and completely reversed diethylparaoxon-induced respiratory toxicity in mice at 150 mg/kg.

REFERENCES

[1]. Cadieux CL, et al. Probing the activity of a non-oxime reactivator for acetylcholinesterase inhibited by organophosphorus nerve agents. Chem Biol Interact. 2016;259(Pt B):133-141.

[2]. Eyer P, Buckley N. Pralidoxime for organophosphate poisoning. Lancet. 2006;368(9553):2110-2111.

[3]. Houzé P, et al. High Dose of Pralidoxime Reverses Paraoxon-Induced Respiratory Toxicity in Mice. Turk J Anaesthesiol Reanim. 2018;46(2):131-138.

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