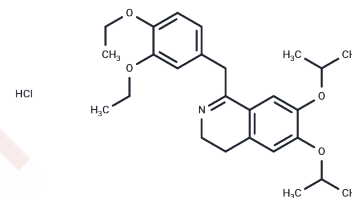


## Diproteverine HCl

## Chemical Properties

CAS No. :	69373-88-2
Formula:	C <sub>26</sub> H <sub>36</sub> ClNO <sub>4</sub>
Molecular Weight:	462.02
Storage:	Powder: -20°C for 3 years   In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



## Biological Description

Description	Diproteverine HCl is a novel calcium antagonist with antianginal properties, antispasmodic and vasoactive.
Targets(IC50)	Calcium Channel
In vitro	Diproteverine (1 $\mu$ M; sheep Purkinje fibers) to reduce the amplitude of the slow action potential (IC <sub>30</sub> = 2 $\mu$ M) and to shorten the duration of the fast action potential at 50% repolarisation (IC <sub>30</sub> = 2.5 $\mu$ M). Papaverine was found to possess marginal membrane channel-blocking activity and to be much more potent than diproteverine as a cAMP-phosphodiesterase inhibitor (IC <sub>50</sub> = 8 $\mu$ M).[2]
In vivo	Diproteverine (0.25-0.75 mg/kg; i.e.; dog; at plasma levels within the assumed therapeutic range) dose-relatedly decreases heart rate, increases corrected sinus node recovery time, and decreases Wenckebach point. These effects are observed at plasma levels ranging between 16.2 +/- 4.1 and 144.7 +/- 12.5 ng/ml. After cholinergic blockade with N-methylscopolammonium, diproteverine lowers heart rate (greater than or equal to 0.25 mg/kg), increases corrected sinus node recovery time, and decreases Wenckebach point (greater than or equal to 0.5 mg/kg). After propranolol, diproteverine only significantly reduces corrected sinus node recovery time 5 min after the third administration (0.75 mg/kg). After pharmacologic autonomic blockade by N-methylscopolammonium propranolol combination, diproteverine lowers the intrinsic heart rate (greater than or equal to 0.25 mg/kg) and Wenckebach point (greater than or equal to 0.5 mg/kg). Diproteverine does not modify mean blood pressure. These results show that diproteverine administered with and without pharmacologic autonomic blockade in the conscious dog causes dose-related depressant effects on sinus node function and atrioventricular conduction without producing significant vasodilatation.[1]

## Solubility Information

Solubility	DMSO: 55 mg/mL (119.04 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	2.1644 mL	10.822 mL	21.6441 mL
5 mM	0.4329 mL	2.1644 mL	4.3288 mL
10 mM	0.2164 mL	1.0822 mL	2.1644 mL
50 mM	0.0433 mL	0.2164 mL	0.4329 mL

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Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

- Kantelip JP, et al. Effects of diproteverine, a new calcium antagonist on sinoatrial node and atrioventricular conduction in conscious unsedated dogs. *J Cardiovasc Pharmacol.* 1988;12(4):432-437.
- Lacroix P, et al. Diproteverine (BRL 40015): a new type of calcium antagonist with potential antianginal properties. *Eur J Pharmacol.* 1991;192(3):317-327.
- Ridings JE, et al. Prenatal toxicity studies in rats and rabbits with the calcium channel blocker diproteverine. *Reprod Toxicol.* 1996;10(1):43-49.

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