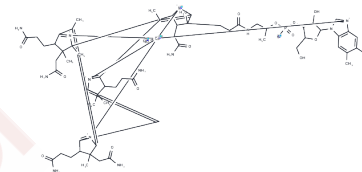


Hydroxocobalamin

Chemical Properties

CAS No. :	13422-51-0
Formula:	C ₆₂ H ₈₉ CoN ₁₃ O ₁₅ P
Molecular Weight:	1346.36
Storage:	Keep away from moisture Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>



Biological Description

Description	Hydroxocobalamin (Vitamin B12a), a member of the vitamin B12 family, is a potent cyanide antidote. It effectively reduces cyanide concentrations in cells and plasma, significantly increasing the survival rate in cases of acute cyanide poisoning. Additionally, Hydroxocobalamin is used to improve the metabolic profile and neurocognitive outcomes associated with newborn Cbl-C defects and can normalize plasma levels in patients with vitamin B12 deficiency. It is also utilized in research concerning metabolic and neurological diseases, though it may be associated with the induction of acute kidney injury (AKI).
Targets(IC50)	Endogenous Metabolite
In vitro	In vitro, Hydroxocobalamin (1 mM, 5 min) significantly reverses the decrease in cardiac papillary muscle contractility induced by sodium cyanide. In fibroblast models, Hydroxocobalamin (500 microM, 10 min) effectively reduces the accumulation of intracellular cyanide [1].
In vivo	In vivo, intravenous injection of Hydroxocobalamin (150 mg/kg) maintains higher systolic blood pressure in both volume-controlled and uncontrolled hemorrhage swine models, with efficacy comparable to whole blood [2].

Solubility Information

Solubility	DMSO: 20 mg/mL (14.85 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.7427 mL	3.7137 mL	7.4274 mL
5 mM	0.1485 mL	0.7427 mL	1.4855 mL
10 mM	0.0743 mL	0.3714 mL	0.7427 mL
50 mM	0.0149 mL	0.0743 mL	0.1485 mL

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

Thompson JP, et al. Hydroxocobalamin in cyanide poisoning. Clin Toxicol (Phila). 2012;50(10):875-885.

Paredes RM, et al. Comparison of hydroxocobalamin with other resuscitative fluids in volume-controlled and uncontrolled hemorrhage models in swine (Sus-scrofa). J Trauma Acute Care Surg. 2023;95(25 Suppl 1):S120-S128.

Olivieri G, et al. Improved biochemical and neurodevelopmental profiles with high-dose hydroxocobalamin therapy in cobalamin C defect. J Inherit Metab Dis. 2025;48(1):e12787.

Dépret F, et al. Association between hydroxocobalamin administration and acute kidney injury after smoke inhalation: a multicenter retrospective study. Crit Care. 2019;23(1):421. Published 2019 Dec 23.

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