

PPACK Dihydrochloride

Chemical Properties

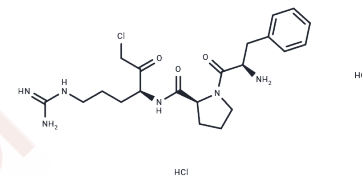
CAS No. : 82188-90-7

Formula: C₂₁H₃₃Cl₃N₆O₃

Molecular Weight: 523.88

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	PPACK Dihydrochloride is an efficient and selective irreversible thrombin inhibitor, which is often used in anticoagulant research, and can be used as a substitute anticoagulant for heparin lithium in blood gas and whole blood electrolyte analysis. PPACK is also used to regulate serine protease-related processes, which has application value in the study of thrombosis and fibrinolysis-related mechanisms.
Targets(IC50)	Thrombin
In vitro	PPACK Dihydrochloride can effectively inhibit thrombin, and its K_i value is 3.7×10^{-8} M [2]. PPACK Dihydrochloride (0.2 mM; 2 h coincubation, 12 h measurement) can reduce the permeability increase induced by plasmin in the confluent bovine aortic endothelial cell monolayer by 59% at 12 hours after the initial exposure of plasmin, and completely inhibit the activity of plasmin [3]. PPACK Dihydrochloride (0.2 mM; 4 h post plasmin treatment) can alleviate the morphological damage of confluent bovine aortic endothelial cells induced by plasmin, including reducing intercellular space and maintaining the stress fiber structure of F-actin, which was detected after 4 hours of initial plasmin treatment [3].
In vivo	PPACK Dihydrochloride (0.05-0.5 mg/kg; i.v.; Single bolus injection) plays a significant and dose-dependent antithrombotic role in the rat mesenteric microthrombosis model induced by He-Ne laser. Its minimum effective dose to arterioles and venules is 0.1 mg/kg, and it reaches its maximum activity immediately after a single intravenous injection, and the activity can be maintained for 60 minutes[2].

Solubility Information

Solubility	DMSO: 100.00 mg/mL (190.88 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	1.9088 mL	9.5442 mL	19.0883 mL
5 mM	0.3818 mL	1.9088 mL	3.8177 mL
10 mM	0.1909 mL	0.9544 mL	1.9088 mL
50 mM	0.0382 mL	0.1909 mL	0.3818 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

Lyon ME, et al. D-phenylalanyl-L-prolyl-L-arginine chloromethyl ketone (PPACK): alternative anticoagulant to heparin salts for blood gas and electrolyte specimens. Clin Chem. 1995;41(7):1038-1041.

Yamashita T, et al. The antithrombotic effect of low molecular weight synthetic thrombin inhibitors, argatroban and PPACK, on He-Ne laser-induced thrombosis in rat mesenteric microvessels. Thromb Res. 1993 Jan 1;69(1):93-100.

Rabbani LE, et al. PPACK attenuates plasmin-induced changes in endothelial integrity. Thromb Res. 1993;70(6):425-436.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481