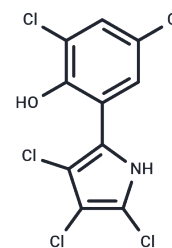


## Pentachloropseudilin

## Chemical Properties

CAS No. :	69640-38-6
Formula:	C <sub>10</sub> H <sub>4</sub> Cl <sub>5</sub> NO
Molecular Weight:	331.41
Storage:	Store at low temperature, Keep away from direct sunlight 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	Pentachloropseudilin (PCLP) is a reversible variant 1 myosin inhibitor with antimicrobial activity that inhibits Myo1s and class 5 myosins. Pentachloropseudilin inhibits growth factor-beta (TGF-β), which blocks host cell invasion by Trypanosoma cruzi.
Targets(IC50)	Antibiotic, Myosin, TGF-beta/Smad
In vitro	Pentachloropseudoprotein (PCLP) inhibits TGF-β-stimulated Smad2/3 phosphorylation and activation of the plasminogen activator inhibitor-1 (PAI-1) promoter, with an IC50 value of 0.1 μM in target cells (A549, HepG2, and Mv1Lu cells) [2]. Pentachloropseudoprotein reduced TGF-β-stimulated expression of waveform protein, N-adhesin, and fibronectin, thereby blocking TGF-β-induced epithelial-to-mesenchymal transition (EMT) in these cells. Pentachloropseudoprotein (0.05 to 1 μM; 0-6 hours) pretreatment inhibited the TGF-β-mediated increase in p-Smad2/3 expression (50 or 100 pM), reducing it by 47% (Mv1Lu) and 79% (A549), respectively [2]. Sucrose density gradient analysis and immunofluorescence staining showed that pentachloro pseudilin (0.2 μM) inhibited TGF-β-stimulated cellular responses by accelerating caveolae-mediated internalization, inhibiting cell surface type II TGF-β receptor expression, and then degrading the receptor primarily through lysosome-dependent degradation [2].

## Solubility Information

Solubility	DMSO: 80 mg/mL (241.39 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 3.3 mg/mL (9.96 mM), Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	3.0174 mL	15.0871 mL	30.1741 mL
5 mM	0.6035 mL	3.0174 mL	6.0348 mL
10 mM	0.3017 mL	1.5087 mL	3.0174 mL
50 mM	0.0603 mL	0.3017 mL	0.6035 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

Chung CL, et al. Pentachloropseudilin Inhibits Transforming Growth Factor- $\beta$  (TGF- $\beta$ ) Activity by Accelerating Cell-Surface TypeII TGF- $\beta$  Receptor Turnover in Target Cells. *Chembiochem*. 2018 Apr 16;19(8):851-864.

Chinthalapudi K, et al. Mechanism and specificity of pentachloropseudilin-mediated inhibition of myosin motor activity. *J Biol Chem*. 2011 Aug 26;286(34):29700-8.

Rozbicki E, et al. Myosin-II-mediated cell shape changes and cell intercalation contribute to primitive streak formation. *Nat Cell Biol*. 2015 Apr;17(4):397-408.

Brandstaetter H, et al. Loss of functional MYO1C/myosin 1c, a motor protein involved in lipid raft trafficking, disrupts autophagosome-lysosome fusion. *Autophagy*. 2014;10(12):2310-23. doi: 10.4161/15548627.2014.984272.

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