Product Data Sheet

Product Name: Pentachloropseudilin
Cat. No.: GC63650

Chemical Properties

Cas. No.	69640-38-6		
Formula	$C_{10}H_4Cl_5NO$	M.Wt	331.41
Solubility		Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	Pentachloropseudilin		

Background

Pentachloropseudilin (Antibiotic A 15104 Y; PClP) is a reversible and allosteric potent inhibitor of Myo1s (class 1 myosins) with IC50s range from 1 to 5 μM for mammalian class-1 myosins and greater than 90 μM for class-2 and class-5 myosins. Pentachloropseudilin is a potent inhibitor of transforming growth factor-β (TGF-β)-stimulated signaling, with an IC50 of 0.1 to 0.2 μM for TGF-β[1][2].

Pentachloropseudilin (PClP) inhibits TGF-β-stimulated Smad2/3 phosphorylation and plasminogen activator inhibitor-1 (PAI-1) promoter activation with an IC50 of 0.1 μM in target cells (A549, HepG2, and Mv1Lu cells)[1].Pentachloropseudilin attenuates TGF-β-stimulated expression of vimentin, N-cadherin, and fibronectin and, thus, blocks TGF-β-induced epithelial to mesenchymal transition (EMT) in these cells. Pentachloropseudilin (0.05 to 1 μμ; 0-6 hours) pretreatment inhibits TGF-β-mediated (50 or 100 pM) increases in p-Smad2/3 expression to 47% (Mv1Lu) and 79% (A549), respectively[1]. Pentachloropseudilin (0.2 μM) suppresses TGF-β-stimulated cellular responses by attenuating cell-surface expression of the type II TGF-β receptor through accelerating caveolae-mediated internalization followed by primarily lysosome-dependent degradation of the receptor, as demonstrated by sucrose density gradient analysis and immune fluorescence staining[1].Pentachloropseudilin (200 μM; 24 hours) exhibits and

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altered cell viability in HUVECs[2].

[1]. Chinthalapudi K, et al. Mechanism and specificity of pentachloropseudilin-mediated inhibition of myosin motor activity. J Biol Chem. 2011;286(34):29700-29708.
[2]. Chung CL, et al. Pentachloropseudilin Inhibits Transforming Growth Factor-β (TGF-β) Activity by Accelerating Cell-Surface Type II TGF-β Receptor Turnover in Target Cells. Chembiochem. 2018;19(8):851-864. [3]. Cota Teixeira S, et al. Pentachloropseudilin Impairs Angiogenesis by Disrupting the Actin Cytoskeleton, Integrin Trafficking and the Cell Cycle. Chembiochem. 2019;20(18):2390-2401.

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