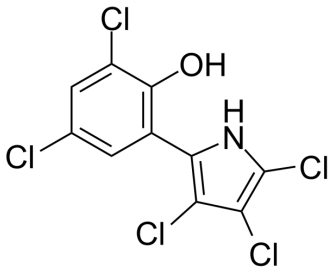
Pentachloropseudilin

Cat. No.:	HY-115669
CAS No.:	69640-38-6
Molecular Formula:	$C_{10}H_4Cl_5NO$
Molecular Weight:	331.41
Target:	Myosin; TGF-β Receptor
Pathway:	Cytoskeleton; TGF-beta/Smad
Storage:	Powder -20°C 3 years In solvent -80°C 6 months -20°C 1 month



BIOLOGICAL ACTIVITY

Description	Pentachloropseudilin (Antibiotic A 15104 Y; PClP) is a reversible and allosteric potent inhibitor of Myo1s (class 1 myosins) with IC_{50}s 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 IC_{50} of 0.1 to 0.2 μM for TGF-β[1][2].
In Vitro	Pentachloropseudilin (PClP) inhibits TGF-β-stimulated Smad2/3 phosphorylation and plasminogen activator inhibitor-1 (PAI-1) promoter activation with an IC_{50} 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 μM; 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 altered cell viability in HUVECs[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[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.

Caution: Product has not been fully validated for medical applications. For research use only.

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