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Zuschläge

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Pentabromopseudilin

Cat. No.: HY-113604

CAS No.: 10245-81-5

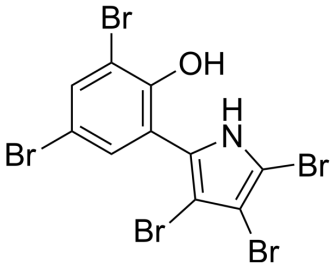
Molecular Formula: $C_{10}H_4Br_5NO$

Molecular Weight: 553.66

Target: TGF-β Receptor

Pathway: TGF-beta/Smad

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Pentabromopseudilin (PBrP) is a marine antibiotic isolated from the marine bacteria Pseudomonas bromoutilis and Alteromonas luteoviolaceus. PBrP exhibits antimicrobial, anti-tumour and phytotoxic activities. PBrP is a reversible and allosteric inhibitor of myosin Va (MyoVa). PBrP also is a potent inhibitor of transforming growth factor-β (TGF-β) activity. PBrP can be used for the research of fibrotic diseases and cancer[1].

In Vitro

Pentabromopseudilin (PBrP) (0.01-1 μM, 6 h) prevents TGF-β-induced Smad protein phosphorylation and nuclear translocation[1].
PBrP (0.5 μM, 6 h) inhibits TGF-β-stimulated transcriptional responses[1].
PBrP (0-1 μM, 6 h) inhibits TGF-β-induced EMT in A549 cells[1].
PBrP (0.2 μM, 20 h) suppresses TGF-β-induced cell migration[1].
PBrP (0.01-1 μM, 6 h) blocks TGF-β signalling by enhancing degradation of TβRII[1].
PBrP (0.5 μM, 0, 1, 3 h) blocks TGF-β signalling by enhancing degradation of TβRII via caveolae[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[1]

Cell Line:	Mv1Lu, A549, Clone 9 and HepG2 cells
Concentration:	0.01-1 μM (Mv1Lu, A549, Clone 9 and HepG2 cells); 0.5 μM (Mv1Lu, A549 and HepG2 cells)
Incubation Time:	6 h (Mv1Lu, A549, Clone 9 and HepG2 cells); 0.5, 1, 2, 4, 6 h (Mv1Lu, A549 and HepG2 cells)
Result:	Suppressed the TGF-β-stimulated Smad2/3 phosphorylation in a dose-dependent manner in these cell lines. Prevented TGF-β induced the nuclear translocation of Smad2/3 and PBrP alone did not alter the localisation of Smad proteins.

Immunofluorescence[1]

Cell Line:	A549 cells
Concentration:	0.2 μM
Incubation Time:	6 h
Result:	Abolished TGF-β-induced Smad2/3 nuclear translocation.

Cell Migration Assay [1]

Cell Line:	A549 cells
Concentration:	0.2 μM
Incubation Time:	20 h
Result:	Suppressed TGF-β-stimulated cell migration and did not close the wound.

REFERENCES

[1]. Shih-Wei W, et al. Pentabromopseudilin: a myosin V inhibitor suppresses TGF-β activity by recruiting the type II TGF-β receptor to lysosomal degradation. J Enzyme Inhib Med Chem. 2018;33(1):920-935.

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