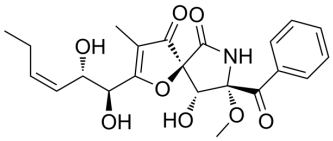
Pseurotin A

Cat. No.:	HY-125916
CAS No.:	58523-30-1
Molecular Formula:	$C_{22}H_{25}NO_8$
Molecular Weight:	431.44
Target:	Endogenous Metabolite
Pathway:	Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Pseurotin A, a secondary metabolite of Aspergillus and other fungi, is a competitive inhibitor of chitin synthase and a neuritogenic agent. Pseurotin A inhibits IgE production (IC_{50}=3.6 μM). Antitumor activity[1][2][3].
IC_{50} & Target	Microbial Metabolite

In Vitro

Pseurotin A inhibits the expression of PCSK9 in HepG2 cells, with an IC_{50} value of 1.2 μM. Pseurotin A (25-100 μM; 72 hours) significantly suppressed the PCSK9 level in a dose dependent manner in BT-474 and T47D BC cell lines. Pseurotin A (25-100 μM; 72 hours) significantly increases LDLR level in a dose dependent manner[3].

Pseurotin A (40-200 μM; 24-72 hours) shows anti-proliferative activity in the hormone-dependent BC cells[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[3]

Cell Line:	BT-474 cells, T47D cells
Concentration:	40-200 μM
Incubation Time:	24-72 hours
Result:	Showed weak but time and dose-dependent inhibition of the growth of BT-474 and T47D BC cells, with gradual decrease of the IC_{50} values over time (260.83-93.64 μM and 267.84-113.08 μM, respectively).

In Vivo

Pseurotin A (10 mg/kg; p.o.; 7X/week, 30 days) shows anti-tumor activity[3].

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Animal Model:	HFD-fed orthotopic athymic mice (bearing BT-474 tumor cells xenograft mode)[1]
Dosage:	10 mg/kg
Administration:	P.o.; 7X/week, 30 days
Result:	Significantly suppressed the growth of BT474 tumors.

REFERENCES

[1]. Ishikawa M, et al. Pseurotin A and its analogues as inhibitors of immunoglobulin E [correction of immunoglobuline E] production. Bioorg Med Chem Lett. 2009;19(5):1457-1460.

[2]. Maiya S, Grundmann A, Li X, Li SM, Turner G. Identification of a hybrid PKS/NRPS required for pseurotin A biosynthesis in the human pathogen Aspergillus fumigatus. Chembiochem. 2007;8(14):1736-1743.

[3]. Abdelwahed KS, et al. Pseurotin A as a novel suppressor of hormone dependent breast cancer progression and recurrence by inhibiting PCSK9 secretion and interaction with LDL receptor. Pharmacol Res. 2020;158:104847.

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