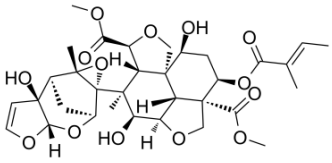
Azadirachtin B

Cat. No.:	HY-133108
CAS No.:	106500-25-8
Molecular Formula:	$C_{33}H_{42}O_{14}$
Molecular Weight:	662.68
Target:	Parasite; Phosphatase; Influenza Virus
Pathway:	Anti-infection; Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Azadirachtin B is an limonoid isolated from seed kernels of Azadirachta indica. Azadirachtin B increases alkaline phosphatase (ALP) activity and stimulates osteoblast differentiation. Azadirachtin B is active against the Epstein-Barr virus early antigen (EBV-EA). Azadirachtin B has insecticidal, nematocidal, anticancer, anti-inflammatory, antiviral and osteogenic properties[1][2][3].

IC_{50} & Target

Plutella xylostella[1]
Alkaline phosphatase (ALP)[2]
Epstein-Barr virus early antigen (EBV-EA)[3]

In Vitro

Azadirachtin B (1 pM-100 μM; 48 hours; Osteoblast cells) treatment shows highest proliferation at 10 nM and 100 pM concentrations in osteoblast cells[1].
Azadirachtin B increases expression of RunX-2 -2.5 fold at 10 nM concentration, ALP expression -2.8 fold at 10 nM and 100 pM concentration and OCN expression -2.5 folds at 10 nM as compared with control[1].
Azadirachtin B (Compound 4) exhibits toxicity to the diamondback moth (Plutella xylostella) with an LD_{50} of 4.85-1.06 μg/g body weight, in 92 h[2].
Azadirachtin B (compound 21) exhibits moderate or potent inhibitory effects (IC50 value of 384 mol ratio/32 pmol TPA) against the Epstein-Barr virus early antigen (EBV-EA) activation induced by tetradecanoylphorbol-13-acetate (TPA)[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[1]

Cell Line:	Osteoblast cells
Concentration:	1 pM, 100 pM, 10 nM, 1 μM, 100 μM
Incubation Time:	48 hours
Result:	Showed highest proliferation at 10 nM and 100 pM concentrations in osteoblast cells.

In Vivo

On evaluation of Azadirachtin B (compound 21; oral administration) for its anti-tumor-initiating activity on the two-stage carcinogenesis of mouse skin tumor induced by peroxynitrite (ONOO-; PN) as an initiator and TPA as a promoter, this exhibited marked inhibitory activity[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Kushwaha P, et al. Azadirachta indica triterpenoids promote osteoblast differentiation and mineralization in vitro and in vivo. Bioorg Med Chem Lett. 2016 Aug 1;26(15):3719-24.

[2]. Kanokmedhakul S, et al. Azadirachtin derivatives from seed kernels of Azadirachta excelsa. J Nat Prod. 2005 Jul;68(7):1047-50.

[3]. Akihisa T, et al. Melanogenesis inhibitory, anti-inflammatory, and chemopreventive effects of limonoids from the seeds of Azadirachta indicia A. Juss. (neem). J Oleo Sci. 2009;58(11):581-94.

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