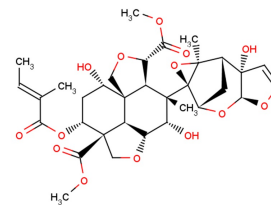


## Azadirachtin B

## Chemical Properties

CAS No.:	106500-25-8
Formula:	C <sub>33</sub> H <sub>42</sub> O <sub>14</sub>
Molecular Weight:	662.68
Appearance:	N/A
Storage:	0-4°C for short term (days to weeks), or -20°C for long term (months).



## Biological Description

Description	Azadirachtin B is an limonoid isolated from seed kernels of <i>Azadirachta indica</i> and it is active against the Epstein-Barr virus early antigen (EBV-EA). Azadirachtin B increases alkaline phosphatase (ALP) activity and stimulates osteoblast differentiation. Azadirachtin B has insecticidal, nematocidal, anticancer, anti-inflammatory, antiviral and osteogenic properties[1][2][3].
Targets(IC <sub>50</sub> )	Alkaline phosphatase (ALP): None Plutella xylostella: None
In vitro	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 (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 (compound 21) exhibits moderate or potent inhibitory effects (IC <sub>50</sub> 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]. Azadirachtin B (Compound 4) exhibits toxicity to the diamondback moth ( <i>Plutella xylostella</i> ) with an LD <sub>50</sub> of 4.85-1.06 μg/g body weight, in 92 h[2].
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 <sup>-</sup> ; PN) as an initiator and TPA as a promoter, this exhibited marked inhibitory activity[3].

## Solubility Information

Solubility	< 1 mg/ml refers to the product slightly soluble or insoluble
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## Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.509 mL	7.545 mL	15.09 mL
5 mM	0.302 mL	1.509 mL	3.018 mL
10 mM	0.151 mL	0.755 mL	1.509 mL
50 mM	0.03 mL	0.151 mL	0.302 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 °C for 6 months; - 20 °C for 1 month. Please use it as soon as possible.

Reference

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 indica A. Juss. (neem). J Oleo Sci. 2009;58(11):581-94.

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