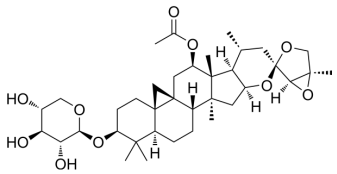
23-epi-26-Deoxyactein

Cat. No.:	HY-139058
CAS No.:	501938-01-8
Molecular Formula:	$C_{37}H_{56}O_{10}$
Molecular Weight:	660.83
Target:	PPAR
Pathway:	Cell Cycle/DNA Damage; Vitamin D Related/Nuclear Receptor
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



BIOLOGICAL ACTIVITY

Description

23-epi-26-Deoxyactein is a natural and orally active anti-obesity and anti-cancer compound[1][2][3].

In Vitro

23-epi-26-Deoxyactein (DA :10 μM and 20 μM) inhibits 3T3-L1 adipogenesis through down-regulating the expression of C/ebp α, C/ebpβ, and Pparγ, which are the critical adipogenic transcription factors[1].

23-epi-26-Deoxyactein (DA) promotes mitochondrial biogenesis in pancreatic β-cells preventing methylglyoxal-induced oxidative cell damage and protects osteoblasts against Antimycin A-induced cell damage[2].

23-epi-26-Deoxyactein (DA) inhibits growth of the MCF7 human breast cancer cells and induces cell cycle arrest at G1 (IC_{50} of 21μM)[3].

23-epi-26-Deoxyactein (0.1-1 μM) protects osteoblasts against Antimycin A-induced cell damage[4].

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

Cell Differentiation Assay[1]

Cell Line:	3T3-L1 preadipocytes.
Concentration:	0-50 μM.
Incubation Time:	8 days.
Result:	10 μM DA inhibited the adipogenesis of 3T3-L1 preadipocytes mainly at the early stage of differentiation.

In Vivo

23-epi-26-Deoxyactein (DA: 5 and 10 mg/kg/d) significantly lowers body weight gain, fat mass, and liver weight in HFD-fed mice. 23-epi-26-Deoxyactein (DA) also reduces insulin resistance and serum lipoprotein levels in HFD-fed mice[1].

23-epi-26-Deoxyactein (DA) promotes adipocyte lipolysis in mice through activating the AMPK signaling and SIRT1-FOXO1 pathway[1].

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

Animal Model:	Diet induced obesity in C57BL/6 mice[1].
Dosage:	1-10 mg/kg.
Administration:	Orally, daily for 12 weeks.

Result:	Lowered body weight gain, fat mass, and liver weight. 5 mg/kg/d DA significantly improved HFD-induced glucose intolerance.

REFERENCES

[1]. Jingjing Yuan, et al. Effects of 23-epi-26-deoxyactein on adipogenesis in 3T3-L1 preadipocytes and diet-induced obesity in C57BL/6 mice. Phytomedicine. 2020 Jun 5;76:153264.

[2]. Kwang Sik Suh, et al. Deoxyactein protects pancreatic β-cells against methylglyoxal-induced oxidative cell damage by the upregulation of mitochondrial biogenesis. Int J Mol Med. 2017 Aug;40(2):539-548.

[3]. Einbond, L.S., et al. Growth inhibitory activity of extracts and purified components of black cohosh on human breast cancer cells. Breast Cancer Res. Treat. 83, 221–231. Breast Cancer Res Treat. 2004 Feb;83(3):221-31.

[4]. Eun Mi Choi, et al. Deoxyactein Isolated from Cimicifuga racemosa protects osteoblastic MC3T3-E1 cells against antimycin A-induced cytotoxicity. J Appl Toxicol. 2013 Jun;33(6):488-94.

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