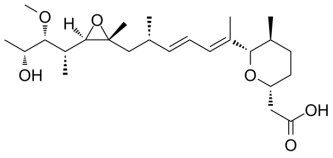
Herboxidiene

Cat. No.:	HY-19828
CAS No.:	142861-00-5
Molecular Formula:	$C_{25}H_{42}O_6$
Molecular Weight:	438.6
Target:	DNA/RNA Synthesis
Pathway:	Cell Cycle/DNA Damage
Storage:	-20°C, protect from light, stored under nitrogen * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light, stored under nitrogen)



BIOLOGICAL ACTIVITY

Description

Herboxidiene (GEX1A) is a potent phytotoxic polyketide from Streptomyces sp. A7847 with a diverse range of activities, including herbicidal, anti-cholesterol, anti-tumor effects. Herboxidiene inhibits the pre-mRNA splicing process by binding to spliceosome-associated protein (SAP) 155, a subunit of SF3b, in the splicesome[1][2].

In Vitro

Herboxidiene (24 hours) induces both G1 and G2/M arrest in a human normal fibroblast cell line, WI-38, with an IC_{50} of 7.6 nM [3].

Herboxidiene exhibits cytotoxicity against A431, A549, and DLD-1 cells with IC_{50}s of 3.7, 21, 51 nM, respectively[3].

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

In Vivo

Herboxidiene (GEX1A) (1 mg/kg; i.p.; once) shows significant antitumor activity[3].

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Animal Model:	BALB/c mice (bearing SVT2 murine fibrosarcoma)[3]
Dosage:	1 mg/kg
Administration:	I.p.; once
Result:	Showed significant antitumor activity on day 4.

REFERENCES

[1]. Pokhrel AR, et al. Herboxidiene biosynthesis, production, and structural modifications: prospect for hybrids with related polyketide. Appl Microbiol Biotechnol. 2015;99(20):8351-8362.

[2]. Sakai Y, et al. GEX1 compounds, novel antitumor antibiotics related to herboxidiene, produced by Streptomyces sp. I. Taxonomy, production, isolation, physicochemical properties and biological activities. J Antibiot (Tokyo). 2002;55(10):855-862.

[3]. Miller-Wideman M, et al. Herboxidiene, a new herbicidal substance from Streptomyces chromofuscus A7847. Taxonomy, fermentation, isolation, physico-chemical and biological properties. J Antibiot (Tokyo). 1992;45(6):914-921.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA