Maytansinol

Cat. No.: HY-19474

CAS No.: 57103-68-1

Molecular Formula: $C_{28}H_{37}ClN_2O_8$

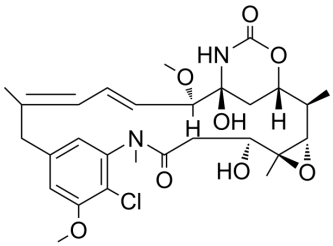
Molecular Weight: 565.06

Target: Microtubule/Tubulin; ADC Cytotoxin; Apoptosis

Pathway: Cell Cycle/DNA Damage; Cytoskeleton; Antibody-drug Conjugate/ADC Related; Apoptosis

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 35 mg/mL (61.94 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Concentration \ Solvent \ Mass	1 mg	5 mg	10 mg
1 mM	1.7697 mL	8.8486 mL	17.6972 mL
5 mM	0.3539 mL	1.7697 mL	3.5394 mL
10 mM	0.1770 mL	0.8849 mL	1.7697 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (3.68 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (3.68 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (3.68 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Maytansinol (Ansamitocin P-0) is a derivative of Maytansine. Maytansinol can inhibit tubulin polymerization and induce apoptosis. Maytansinol has antitumor activity. Maytansinol can be used in cancer drug research[1][2].

In Vitro

Maytansinol (0.09-0.75 nM, 24 h) decreases the growth and survival of HCT116 cells in a dose-dependent manner [2].

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

	Cell Viability Assay[2]
	Cell Line: HCT116
	Concentration: 0.09, 0.13, 0.18, 0.26, 0.37, 0.53, 0.75 nM
	Incubation Time: 24 h
	Result: Reduced the growth and survival of HCT116 cells in a dose-dependent manner and the effect was more severe for p53+/+ than for p53–/– cells at both low and high doses. At intermediate doses, the effect was not significantly different on wild-type and p53 mutant cells.
In Vivo	Maytansinol (2 μM, 10 μM, add to food, 1-2 h) can depolymerize microtubules in Drosophila. Maytansinol (0.5-2 μM, add to food, 10 days) decreases the survival rate of wild-type and p53 mutant larvae. Maytansinol (1 or 2 μM, add to food, 24-26 h) can induce apoptosis of wild-type Drosophila cells[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Zafar S, et al. New insights into the anticancer therapeutic potential of maytansine and its derivatives. Biomed Pharmacother. 2023 Sep;165:115039.

[2]. Edwards A, et al. Combinatorial effect of maytansinol and radiation in Drosophila and human cancer cells. Dis Model Mech. 2011 Jul;4(4):496-503.

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