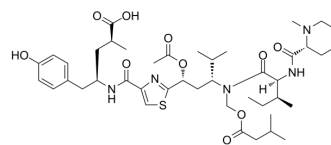


Tubulysin A

Cat. No.:	HY-15995
CAS No.:	205304-86-5
Molecular Formula:	C ₄₃ H ₆₅ N ₅ O ₁₀ S
Molecular Weight:	844.07
Target:	ADC Cytotoxin; Microtubule/Tubulin; Antibiotic
Pathway:	Antibody-drug Conjugate/ADC Related; Cell Cycle/DNA Damage; Cytoskeleton; Anti-infection
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)



SOLVENT & SOLUBILITY

In Vitro	DMSO : 100 mg/mL (118.47 mM; Need ultrasonic)			
		Solvent Concentration	Mass	
			1 mg	5 mg
	Preparing Stock Solutions	1 mM	1.1847 mL	5.9237 mL
	5 mM	0.2369 mL	1.1847 mL	
	10 mM	0.1185 mL	0.5924 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: ≥ 2.5 mg/mL (2.96 mM); Clear solution 2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (2.96 mM); Clear solution 3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (2.96 mM); Clear solution			

BIOLOGICAL ACTIVITY

Description	Tubulysin A (TubA) is an anticancer and antiangiogenic agent with anti-microtubule, anti-mitosis and anti-proliferative activity against a variety of cancer cells with IC ₅₀ values in the pmol range. It can induce apoptosis of cancer cells and has no effect on normal cells. Tubulysins are a group of potent cytotoxins consisting of nine members (A-I). Tubulysin A can synthesize ADC as ADC Cytotoxin< b>ADC Cytotoxin ^{[1][2][3][4]} .
IC₅₀ & Target	Traditional Cytotoxic Agents

In Vitro

The IC₅₀ values of Tubulysin A in the NCI-H1299 (lung), HT-29 (colon) and A2780 (ovary) cell lines are 3, 1 and 2 nmol/L, respectively^[4].

The IC₅₀ values of Tubulysin A against L929 (mouse fibroblast) and KB-V1 (human cervical cancer multidrug resistant cell line) cells were 0.07 and 1.4 ng/ml, respectively^[1].

Tubulysin A (1 nM, 10 nM; 24h) has an antiangiogenic effect in HUVEC cells with IC₅₀ values of 2.07-2.97 nM^[1].

Tubulysin A (5h) can inhibit cell migration in HUVEC cells with IC₅₀ value of 2.26 nM^[1].

Tubulysin A (72h) can inhibit cell growth in HUVEC cells with GI₅₀ value of 0.34 nM^[1].

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

Apoptosis Analysis^[1]

Cell Line:	HL-60 cells
Concentration:	0-100 nM
Incubation Time:	24/48h
Result:	Had a strong pro-apoptotic effect on HL-60 tumor cell line, but had no significant effect on HUVEC cell line.
Cell Line:	
Concentration:	
Incubation Time:	
Result:	

In Vivo

Tubulysin A (0.04 mg/kg, 0.06 mg/kg; Intraperitoneal (i.p.); once daily for 4 days) can inhibit the growth of tumor cells in mouse xenotransplantation mode^[1].

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

Animal Model:	Mouse xenotransplantation mode ^[1]
Dosage:	0.04 and 0.06 mg/kg
Administration:	Intraperitoneal (i.p.)
Result:	Inhibited the growth of tumor cells.

CUSTOMER VALIDATION

- Folia Histochem Cytobiol. 2023 Mar 7.

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REFERENCES

- [1]. Schluep T, et al. Polymeric tubulysin-peptide nanoparticles with potent antitumor activity. Clin Cancer Res. 2009 Jan 1;15(1):181-9.
- [2]. Kaur G, et al. Biological evaluation of tubulysin A: a potential anticancer and antiangiogenic natural product. Biochem J. 2006 Jun 1;396(2):235-42.
- [3]. Sasse F, et al. Tubulysins, new cytostatic peptides from myxobacteria acting on microtubuli. Production, isolation, physico-chemical and biological properties. J Antibiot (Tokyo). 2000 Sep;53(9):879-85.

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

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