Auristatin F

Cat. No.: HY-15583

CAS No.: 163768-50-1

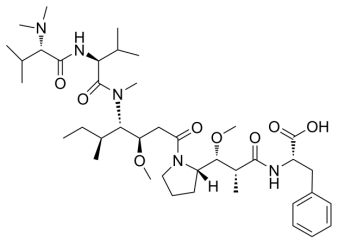
Molecular Formula: $C_{40}H_{67}N_5O_8$

Molecular Weight: 745.99

Target: Microtubule/Tubulin; ADC Cytotoxin

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

Storage: Powder -20°C 3 years
4°C 2 years
* The compound is unstable in solutions, freshly prepared is recommended.



SOLVENT & SOLUBILITY

In Vitro

DMSO : 200 mg/mL (268.10 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	1.3405 mL	6.7025 mL	13.4050 mL
	5 mM	0.2681 mL	1.3405 mL	2.6810 mL
	10 mM	0.1341 mL	0.6703 mL	1.3405 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: ≥ 5 mg/mL (6.70 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 5 mg/mL (6.70 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 5 mg/mL (6.70 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Auristatin F is a potent cytotoxin in antibo-conjugated agents and an analogue of MMAF. Auristatin F is a potent microtubule inhibitor and vascular damaging agent (VDA). Auristatin F inhibits cell division by preventing tubulin aggregation.Auristatin F can be used in antibody-drug conjugates (ADC) [1][2].

IC_{50} & Target

Microtubule[1]

In Vitro

Auristatin F and Monomethyl Auristatin F (MMAF) are potent ADC cytotoxin used in antibody-drug conjugates[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Auristatin F (5 mg/kg; i.v.; male Sprague-Dawley rats) has C_{max} of 8276.76 ng/mL. The AUC_{last} is 65661.30 min*ng/mL, and the clearance (CL) is 77.33 mL/min/kg, which is above the hepatic blood flow in the rat[2].

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

Animal Model:	Male Sprague-Dawley rats[2]
Dosage:	5 mg/kg
Administration:	Intravenous injection
Result:	

Parameter	
Dose (i.v.) mg/kg	5
C_{max} (ng/mL)	8276.76
AUC_{last} (min*ng/mL)	62661.30
CL (mL/min/ng)	77.33
Vss (mL/Kg)	1057.13

REFERENCES

[1]. Park MH, et, al. Pharmacokinetic and Metabolism Studies of Monomethyl Auristatin F via Liquid Chromatography-Quadrupole-Time-of-Flight Mass Spectrometry. Molecules. 2019 Jul 29;24(15):2754.

[2]. Roy S, et al. SMI-Ribosome inactivating protein conjugates selectively inhibit tumor cell growth. Chem Commun (Camb). 2017 Apr 11;53(30):4234-4237.

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