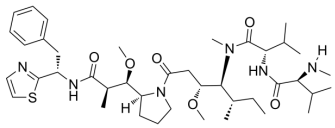
MMAD

Cat. No.:	HY-15581
CAS No.:	203849-91-6
Molecular Formula:	$C_{41}H_{66}N_6O_6S$
Molecular Weight:	771.06
Target:	Microtubule/Tubulin; ADC Cytotoxin
Pathway:	Cell Cycle/DNA Damage; Cytoskeleton; Antibody-drug Conjugate/ADC Related
Storage:	4°C, stored under nitrogen * The compound is unstable in solutions, freshly prepared is recommended.



SOLVENT & SOLUBILITY

In Vitro

DMSO : 24.5 mg/mL (31.77 mM; Need ultrasonic and warming)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	1.2969 mL	6.4846 mL	12.9692 mL
	5 mM	0.2594 mL	1.2969 mL	2.5938 mL
	10 mM	0.1297 mL	0.6485 mL	1.2969 mL

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

BIOLOGICAL ACTIVITY

Description

MMAD is a potent tubulin inhibitor, is a toxin payload in antibody agent conjugates (ADCs).

IC_{50} & Target

Auristatin

In Vitro

MMAD (Monomethyl Dolastatin 10) is coupled through a stable oxime-ligation process to yield several near-homogenous antibody-drug conjugates (ADCs) with a drug-to-antibody ratio of ~2.0. The resulting conjugates demonstrate good pharmacokinetic properties, potent in vitro cytotoxic activity against HER2+ cancer cells. When compared with ADCs prepared by cysteine alkylation following native interchain disulfide reduction, site-specific unnatural-amino-acid-based ADCs are shown to have increased in vitro cytotoxicity[1].

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

In Vivo

The resulting antibody-drug conjugates (ADCs) demonstrate complete tumour regression in rodents. They also have an improved toxicology profile in rats[1].

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REFERENCES

[1]. Chudasama V, et al. Recent advances in the construction of antibody-drug conjugates. Nat Chem. 2016 Feb;8(2):114-9.

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

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