MMAF-OMe

Cat. No.: HY-79256

CAS No.: 863971-12-4

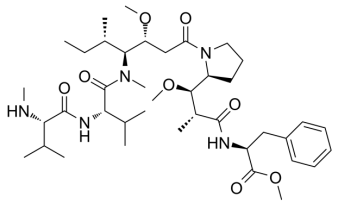
Molecular Formula: $C_{40}H_{67}N_5O_8$

Molecular Weight: 745.99

Target: ADC Cytotoxin

Pathway: 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 : ≥ 100 mg/mL (134.05 mM)
* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Concentration / Solvent / Mass	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: ≥ 2.5 mg/mL (3.35 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (3.35 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (3.35 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

MMAF-Ome, an antitubulin agent, is also an ADC cytotoxin. MMAF-Ome inhibits several tumor cell lines with IC_{50}s of 0.056 nM, 0.166 nM, 0.183 nM, and 0.449 nM for MDAMB435/5T4, MDAMB361DYT2, MDAMB468, and Raji ($5T4^-$) cell lines, respectively.

IC_{50} & Target

Auristatin

In Vitro

2.5F-Fc and 2.5F-Fc-MMAF have similar IC_{50} values (6.9±1.1 vs. 8.3±1.3 nM, respectively), indicating that MMAF conjugation

has negligible impact on integrin-binding affinity[1].

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

PROTOCOL

Cell Assay [1]

Cells are seeded in a 96-well plate at a density of 2,000 cells per well and grown overnight at 37°C, 5% CO_2 in the media described for each cell line above. Cells are subsequently treated with 100 µL of fresh media, containing varying concentrations of knottin-Fc fusion proteins or linker-modified MMAF, and incubated for 5 days at 37°C, 5% CO_2. Cell proliferation is measured using the Cell Counting Kit-8 (CCK-8), by adding the water-soluble tetrazolium salt, WST-8, to each well in an amount equal to 10% of the culture volume. After incubation for 1 hour at 37°C, absorbance at 450 nm is measured with a Synergy H4 microtiter plate reader. Cell proliferation is expressed as a percentage of absorbance relative to the control of untreated cells. Percent maximum proliferation is then reported as (sample − background)/(control − background) × 100. Error bars represent the SD of experiments performed in triplicate.

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

CUSTOMER VALIDATION

- Chemrxiv. 2020 Nov.

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REFERENCES

[1]. Currier NV, et al. Targeted Drug Delivery with an Integrin-Binding Knottin-Fc-MMAF Conjugate Produced by Cell-Free Protein Synthesis. Mol Cancer Ther. 2016 Jun;15(6):1291-300

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