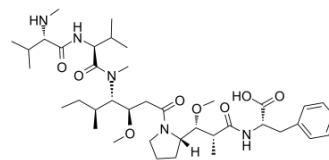


## MMAF

<b>Cat. No.:</b>	HY-15579
<b>CAS No.:</b>	745017-94-1
<b>Molecular Formula:</b>	C <sub>39</sub> H <sub>65</sub> N <sub>5</sub> O <sub>8</sub>
<b>Molecular Weight:</b>	731.96
<b>Target:</b>	Microtubule/Tubulin; ADC Cytotoxin
<b>Pathway:</b>	Cell Cycle/DNA Damage; Cytoskeleton; Antibody-drug Conjugate/ADC Related
<b>Storage:</b>	Please store the product under the recommended conditions in the Certificate of Analysis.



## BIOLOGICAL ACTIVITY

<b>Description</b>	MMAF (Monomethylauristatin F) is a potent tubulin polymerization inhibitor and is used as a antitumor agent. MMAF (Monomethylauristatin F) is widely used as a cytotoxic component of antibody-drug conjugates (ADCs) such as vorsetuzumab mafodotin and SGN-CD19A <sup>[1][2][3]</sup> .
<b>IC<sub>50</sub> &amp; Target</b>	Auristatin
<b>In Vitro</b>	MMAF inhibits anaplastic large cell lymphoma Karpas 299, breast carcinoma H3396, renal cell carcinoma 786-O and Caki-1 cells with IC <sub>50</sub> s of 119, 105, 257 and 200 nM in vitro cytotoxicity assay <sup>[4]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
<b>In Vivo</b>	The maximum tolerated dose in mice of MMAF (Monomethylauristatin F) (>16 mg/kg) is much higher than MMAF (Monomethylauristatin F) (1 mg/kg). cAC10-L1-MMAF <sub>4</sub> has an MTD of 50 mg/kg in mice and 15 mg/kg in rats. The corresponding cAC10-L4-MMAF <sub>4</sub> ADC was much less toxic, having MTDs in mice and rats of >150 mg/kg and 90 mg/kg in rats, respectively <sup>[4]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## PROTOCOL

<b>Cell Assay</b> <sup>[1]</sup>	Cells are treated with serial dilutions of test molecules and incubated 4-6 days depending on cell line. Assessment of cellular growth and data reduction to generate IC <sub>50</sub> values is done using Alamar Blue dye reduction assay <sup>[2]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
<b>Animal Administration</b> <sup>[1]</sup>	Mice: When subcutaneous Karpas 299 tumor size reaches 300 mm <sup>3</sup> , three animals per group receives one injection of 10 mg antibody component/kg body weight of either cAC10-L1-MMAF <sub>4</sub> or cBR96-L1-MMAF <sub>4</sub> intravenously. Tumors are then removed and placed in optimal cutting temperature compound, and 5 μm-thin frozen tissue sections are stained using immunohistochemistry evaluation <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## CUSTOMER VALIDATION

- J Control Release. 2018 May 10;277:48-56.
- Mol Ther Nucleic Acids. 2018 Mar 2;10:227-236.
- Target Oncol. 2019 Sep 20.

See more customer validations on [www.MedChemExpress.com](http://www.MedChemExpress.com)

## REFERENCES

---

- [1]. Doronina SO, et al. Enhanced activity of monomethylauristatin F through monoclonal antibody delivery: effects of linker technology on efficacy and toxicity. *Bioconjug Chem.* 2006 Jan-Feb;17(1):114-24.
- [2]. Lee JW, et al. EphA2 targeted chemotherapy using an antibody drug conjugate in endometrial carcinoma. *Clin Cancer Res.* 2010 May 1;16(9):2562-70.
- [3]. Lee JJ, et al. Enzymatic prenylation and oxime ligation for the synthesis of stable and homogeneous protein-drug conjugates for targeted therapy. *Angew Chem Int Ed Engl.* 2015 Oct 5;54(41):12020-4.
- [4]. Kim EG, et al. Strategies and Advancement in Antibody-Drug Conjugate Optimization for Targeted Cancer Therapeutics.
- 

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA