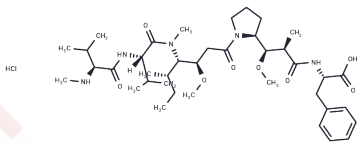
Data Sheet (Cat.No.T16121)

TargetMol

MMAF Hydrochloride

Chemical Properties



CAS No. :	1415246-68-2
Formula:	C39H66ClN5O8
Molecular Weight:	768.42
Storage:	Powder: -20°C for 3 years Actual storage temperature shall be subject to the COA.

Biological Description

Description	MMAF Hydrochloride is widely used as a cytotoxic component of antibody-drug conjugates (ADCs) such as Vorsetuzumab mafodotin and SGN-CD19A. MMAF Hydrochloride is an effective tubulin polymerization inhibitor and is used as an antitumor compound.
Targets(IC50)	Microtubule Associated,ADC Cytotoxin
In vitro	MMAF suppresses anaplastic large cell lymphoma Karpas 299, breast carcinoma H3396, renal cell carcinoma 786-O, and Caki-1 cells. It has IC50s of 119, 105, 257, and 200 nM in vitro cytotoxicity assay[4].
In vivo	cAC10-L1-MMAF4 has an MTD of 50 mg/kg in mice and 15 mg/kg in rats, whereas the cAC10-L4-MMAF4 ADC is much less toxic, with MTDs of >150 mg/kg in mice and 90 mg/kg in rats. The maximum tolerated dose of MMAF (>16 mg/kg) in mice is much higher than that of MMAE (1 mg/kg) [4].

Solubility Information

Solubility	DMSO: 27 mg/mL (35.14 mM),Sonication and heating are recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween-80+45% Saline: 2 mg/mL (2.6 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.3014 mL	6.5069 mL	13.0137 mL
5 mM	0.2603 mL	1.3014 mL	2.6027 mL
10 mM	0.1301 mL	0.6507 mL	1.3014 mL
50 mM	0.026 mL	0.1301 mL	0.2603 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

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.
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.
Kim EG, et al. Strategies and Advancement in Antibody-Drug Conjugate Optimization for Targeted CancerTherapeutics.
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.