

MMAE-D8

Chemical Properties

CAS No. : 2070009-72-0

Formula: C39H59D8N5O7

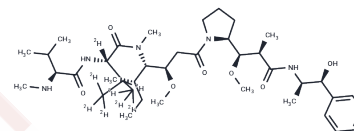
Molecular Weight: 726.03

The compound is unstable in solution. Please use soon

Storage:

Powder: -20°C for 3 years

Actual storage temperature shall be subject to the COA.



Biological Description

Description	MMAE-D8 is a deuterated compound of MMAE (T6897-GMP) (Monomethyl Auristatin), suitable for isotope tracing. MMAE (T6897-GMP) is a tubulin microtubule inhibitor that suppresses cancer cell mitosis and is frequently employed in antibody-drug conjugate (ADC) development.
Targets(IC50)	Microtubule Associated, ADC Cytotoxin
In vitro	Antibody-drug conjugates (ADC) contain targeted antibodies with effective small molecule payloads. The ADC is produced against different receptors on the anaplastic large cell lymphoma L-82 line, but delivers the same cytotoxic payload (monomethyl auristatin E, MMAE). ADC-mediated cytotoxicity is not related to target expression or drug: antibody ratio. LC-MS was used to measure the concentration of MMAE in the L-82 tumor parallel cohort by the same treatment protocol. Although there was no difference in tumor volume between the treatment groups 3 days after administration, intratumoral MMAE measurements showed two patterns. First, the MMAE concentration in the tumor increases in proportion to the ADC dose, which corresponds to stronger antitumor activity. Second, intra-tumor MMAE concentrations obtained after treatment with cOKT9-vcMMAE and cAC10-vcMMAE were similar at each dose, which is consistent with the observation that tumors responded similarly to these two ADCs.
In vivo	In tumor xenograft models, the MMAE concentration in the tumor is always correlated with the degree of tumor growth inhibition. IHC analysis showed that tumors that were not combined with control treatment consisted of CD30+ and CD30- cells, presumably because they did not kill CD30+ or CD30- Karpas 299 cells. Only CD30- cells were found in tumors treated with cAC10-vcMMAF, indicating that cAC10-vcMMAF eliminated most CD30+ cells. Interestingly, at the end of the study, two tumors recurring from the treatment of cAC10-vcMMAE were also found to be CD30-, indicating that in the remaining two tumors, a small portion of CD30- cells may have escaped bystanders Kill.

Solubility Information

Solubility	DMSO: 80 mg/mL (110.19 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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In vivo Formulation	10% DMSO+40% PEG300+5% Tween-80+45% Saline: 3.3 mg/mL (4.55 mM), Sonication is recommended. <i>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.</i>
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.3774 mL	6.8868 mL	13.7735 mL
5 mM	0.2755 mL	1.3774 mL	2.7547 mL
10 mM	0.1377 mL	0.6887 mL	1.3774 mL
50 mM	0.0275 mL	0.1377 mL	0.2755 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

- Adams KN, et al. Verapamil, and its metabolite norverapamil, inhibit macrophage-induced, bacterial efflux pump-mediated tolerance to multiple anti-tubercular drugs. *J Infect Dis.* 2014 Aug 1;210(3):456-66.
- Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother.* 2019;53(2):211-216.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

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