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产品名称：Monomethyl auristatin E
产品别名：MMAE; SGD-1010

生物活性：

Description	Monomethyl auristatin E (MMAE; SGD-1010) is a synthetic derivative of dolastatin 10 and functions as a potent mitotic inhibitor by inhibiting tubulin polymerization. MMAE is widely used as a cytotoxic component of antibody-drug conjugates (ADCs) to treat several different cancer types.
IC_{50} & Target	Auristatin
In Vitro	Monomethyl auristatin E (MMAE) is efficiently released from SGN-35 within $CD30^+$ cancer cells and, due to its membrane permeability, is able to exert cytotoxic activity on bystander cells[1]. MMAE sensitizes colorectal and pancreatic cancer cells to IR in a schedule and dose dependent manner correlating with mitotic arrest. Radiosensitization is evidenced by decreased clonogenic survival and increased DNA double strand breaks in irradiated cells[2].
In Vivo	Monomethyl auristatin E (MMAE) in combination with IR results in tumor growth delay, tumor-targeted ACPP-cRGD-MMAE with IR produces a more robust and significantly prolongs tumor regression in xenograft models[2].
Solvent&Solubility	***In Vitro:*** **DMSO : ≥ 48 mg/mL (66.85 mM)** * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.3928 mL	6.9640 mL	13.9280 mL
5 mM	0.2786 mL	1.3928 mL	2.7856 mL
10 mM	0.1393 mL	0.6964 mL	1.3928 mL

*请根据产品在不同溶剂中的溶解度选择合适的溶剂配制储备液；一旦配成溶液，请分装保存，避免反复冻融造成的产品失效。

储备液的保存方式和期限：-80°C, 6 months; -20°C, 1 month。-80°C 储存时，请在 6 个月内使用，-20°C 储存时，请在 1 个月内使用。

References	[1]. Okeley, et al. Intracellular Activation of SGN-35, a Potent Anti-CD30 Antibody-Drug Conjugate. Clinical Cancer Research (2010), 16(3), 888-897. [2]. Lisa Buckel, et al. Tumor radiosensitization by monomethyl auristatin E: mechanism of action and targeted delivery. Cancer Res. 2015 Apr 1;75(7):1376-87.

实验参考：

Cell Assay	Monomethyl auristatin E (MMAE, 5 nM) and ionizing radiation (IR) treated cells are harvested and lysed in RIPA buffer with protease and phosphatase inhibitors. Thirty μg of lysate undergo electrophoresis using 4-12% Bis-Tris gels, transferred to PVDF membranes and incubated with indicated primary antibodies. Blots are developed by ECL.
	Mice[2] 6-8 week old female athymic nu/nu mice are injected subcutaneously into thighs with 5×10^6 HCT-116 or PANC-1 cells in a 1:1 Matrigel and PBS solution. Mice are treated with IR or

Animal Administration	intravenous (IV) injection of ACPP-cRGD-MMAE (6 nmoles/day, 18 nmoles total, i.v.), tumor tissue is harvested, formalin fixed and paraffin embedded followed by staining with indicated antibodies. The primary antibody is used at a 1:250 dilution and is visualized using DAB as a chromagen with the UltraMap system.
References	[1]. Okeley, et al. Intracellular Activation of SGN-35, a Potent Anti-CD30 Antibody-Drug Conjugate. Clinical Cancer Research (2010), 16(3), 888-897. [2]. Lisa Buckel, et al. Tumor radiosensitization by monomethyl auristatin E: mechanism of action and targeted delivery. Cancer Res. 2015 Apr 1;75(7):1376-87.