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Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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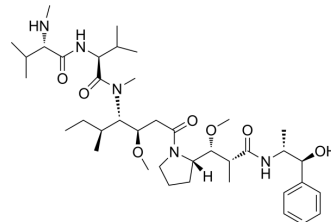
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Monomethyl auristatin E

| | |
|---------------------------|--|
| Cat. No.: | HY-15162 |
| CAS No.: | 474645-27-7 |
| Molecular Formula: | C ₃₉ H ₆₇ N ₅ O ₇ |
| Molecular Weight: | 717.98 |
| Target: | Microtubule/Tubulin; ADC Cytotoxin; Apoptosis |
| Pathway: | Cell Cycle/DNA Damage; Cytoskeleton; Antibody-drug Conjugate/ADC Related; Apoptosis |
| Storage: | -20°C, sealed storage, away from moisture and light * The compound is unstable in solutions, freshly prepared is recommended. |



SOLVENT & SOLUBILITY

In Vitro

Ethanol : 50 mg/mL (69.64 mM; Need ultrasonic)
 DMSO : ≥ 48 mg/mL (66.85 mM)
 H₂O : < 0.1 mg/mL (ultrasonic;warming;heat to 60°C) (insoluble)
 * "≥" 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 |

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: 5% DMSO >> 40% PEG300 >> 5% Tween-80 >> 50% saline
Solubility: 2.62 mg/mL (3.65 mM); Clear solution; Need ultrasonic
- Add each solvent one by one: 5% DMSO >> 95% (20% SBE-β-CD in saline)
Solubility: ≥ 2.62 mg/mL (3.65 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.5 mg/mL (3.48 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.5 mg/mL (3.48 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (3.48 mM); Clear solution
- Add each solvent one by one: 10% EtOH >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.5 mg/mL (3.48 mM); Clear solution
- Add each solvent one by one: 10% EtOH >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.5 mg/mL (3.48 mM); Clear solution
- Add each solvent one by one: 10% EtOH >> 90% corn oil

Solubility: ≥ 2.5 mg/mL (3.48 mM); Clear solution

9. Add each solvent one by one: 1% DMSO >> 99% saline

Solubility: ≥ 0.52 mg/mL (0.72 mM); Clear solution

BIOLOGICAL ACTIVITY

| | |
|-------------------------------------|--|
| 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. |
| IC₅₀ & Target | Auristatin |
| In Vitro | <p>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].</p> <p>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].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> |
| In Vivo | <p>Monomethyl auristatin E (MMAE) in combination with IR results in tumor growth delay, tumor-targeted ACPD-cRGD-MMAE with IR produces a more robust and significantly prolongs tumor regression in xenograft models^[2].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> |

PROTOCOL

| | |
|---|--|
| Cell Assay ^[2] | <p>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.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> |
| Animal Administration ^[2] | <p>Mice^[2]</p> <p>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 intravenous (IV) injection of ACPD-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.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> |

CUSTOMER VALIDATION

- J Control Release. 2024 Feb 13:367:779-790.
- J Pharm Anal. 24 November 2021.
- Br J Cancer. 2020 Sep;123(7):1101-1113.
- Int J Biol Macromol. 2024 Jan, 254, Part 1, 127657.
- Int J Biol Macromol. 22 July 2022.

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

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