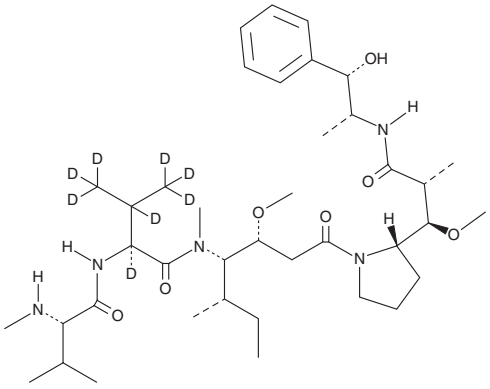
PRODUCT INFORMATION

Monomethyl Auristatin E-d_8

Item No. 44386

CAS Registry No.: 2070009-72-0
Formal Name: N-methyl-L-valyl-N-[(1S,2R)-4-[(2S)-2-[(1R,2R)-3-[[(1R,2S)-2-hydroxy-1-methyl-2-phenylethyl]amino]-1-methoxy-2-methyl-3-oxopropyl]-1-pyrrolidinyl]-2-methoxy-1-[(1S)-1-methylpropyl]-4-oxobutyl]-N-methyl-L-valinamide-2,3,4,4,4,5,5,5-d_8
Synonyms: Brentuximab Vedotin-d_8, MMAE-d_8
MF: $C_{39}H_{59}D_8N_5O_7$
FW: 726.0
Chemical Purity: ≥95% (Monomethyl Auristatin E)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_8); ≤1% d_0
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Monomethyl auristatin E-d_8 is intended for use as an internal standard for the quantification of monomethyl auristatin E (MMAE; Item No. 16267) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

MMAE-d_8 is supplied as a solid. A stock solution may be made by dissolving the MMAE-d_8 in the solvent of choice, which should be purged with an inert gas. MMAE-d_8 is soluble in acetonitrile, methanol, DMSO, and dimethyl formamide.

Description

MMAE is a derivative of dolastatin 10 and an inhibitor of tubulin polymerization.[1] It inhibits the assembly of MAP-rich tubulin and alters the morphology of microtubule ends in cell-free assays when used at concentrations ranging from 1 to 10 µM. MMAE induces cell cycle arrest at the G_2/M phase in, and inhibits the proliferation of, MCF-7 cells (IC_{50}s = 0.5 and 0.9 nM, respectively). It is cytotoxic against a panel of nine lymphoma cell lines (IC_{50}s = 0.039-1.35 nM).[2] MMAE has been used as the cytotoxic payload component of antibody-drug conjugates (ADCs) with anticancer activity *in vitro* and in animal models.[1,2]

References

1. Best, R.L., LaPointe, N.E., Azarenko, O., *et al.* Microtubule and tubulin binding and regulation of microtubule dynamics by the antibody drug conjugate (ADC) payload, monomethyl auristatin E (MMAE): Mechanistic insights into MMAE ADC peripheral neuropathy. *Toxicol. Appl. Pharmacol.* **421**, 115534 (2021).
2. Francisco, J.A., Cerveny, C.G., Meyer, D.L., *et al.* cAC10-vcMMAE, an anti-CD30-monomethyl auristatin E conjugate with potent and selective antitumor activity. *Blood* **102(4)**, 1458-1465 (2003).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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