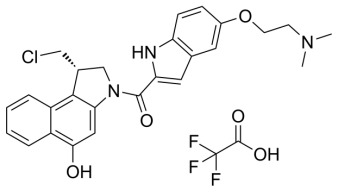
Duocarmycin DM

Cat. No.:	HY-130978
Molecular Formula:	$C_{28}H_{27}ClF_3N_3O_5$
Molecular Weight:	577.98
Target:	DNA Alkylator/Crosslinker; ADC Cytotoxin
Pathway:	Cell Cycle/DNA Damage; Antibody-drug Conjugate/ADC Related
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Duocarmycin DM, a DNA minor-groove alkylator, is an antibody agent conjugates (ADCs) toxin. Duocarmycin DM is based on its characteristic curved indole structure and a spirocyclopropylcyclohexadienone electrophile to act anticancer activity[1][2] .
IC_{50} & Target	Daunorubicins/Doxorubicins
In Vitro	The Duocarmycins and CC-1065 are members of a class of DNA minor groove, AT-sequence selective, and adenine-N3 alkylating agents, isolated from Streptomyces sp. that exhibit extremely potent cytotoxicity against the growth of cancer cells grown in culture[2]. Duocarmycin DM shows cytotoxicity to several human cancer cells, with IC_{50} of 22, 13.8, 3.87, 15.4, and 7.31 pM for HT-29, CL1-5, Caski, EJ, and LS174T, respectively[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Patil PC, et al. A Short Review on the Synthetic Strategies of Duocarmycin Analogs that are Powerful DNA Alkylating Agents. Anticancer Agents Med Chem. 2015;15(5):616-630.

[2]. Koch MF, et al. Structural, Biochemical, and Computational Studies Reveal the Mechanism of Selective Aldehyde Dehydrogenase 1A1 Inhibition by Cytotoxic Duocarmycin Analogues. Angew Chem Int Ed Engl. 2015 Nov 9;54(46):13550-4.

[3]. Chen KC, et al. Selective cancer therapy by extracellular activation of a highly potent glycosidic duocarmycin analogue. Mol Pharm. 2013;10(5):1773-1782.

[4]. Tietze LF, Krewer B, von Hof JM, Frauendorf H, Schuberth I. Determination of the biological activity and structure activity relationships of drugs based on the highly cytotoxic duocarmycins and CC-1065. Toxins (Basel). 2009;1(2):134-150.

[5]. Tietze LF, Schuster HJ, Schmuck K, Schuberth I, Alves F. Duocarmycin-based prodrugs for cancer prodrug monotherapy. Bioorg Med Chem. 2008;16(12):6312-6318.

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

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