Dxd-d_5

Cat. No.: HY-13631DS

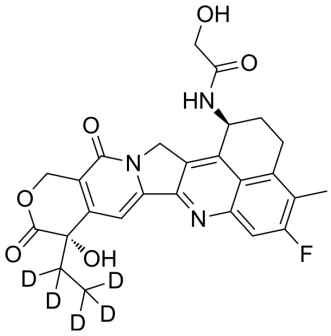
Molecular Formula: $C_{26}H_{19}D_5FN_3O_6$

Molecular Weight: 498.51

Target: Topoisomerase; ADC Cytotoxin

Pathway: Cell Cycle/DNA Damage; Antibody-drug Conjugate/ADC Related

Storage: 4°C, sealed storage, away from moisture and light
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (100.30 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.0060 mL	10.0299 mL	20.0598 mL
	5 mM	0.4012 mL	2.0060 mL	4.0120 mL
	10 mM	0.2006 mL	1.0030 mL	2.0060 mL

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

BIOLOGICAL ACTIVITY

Description

Dxd-d_5 is a deuterium labeled Dxd. Dxd is a potent DNA topoisomerase I inhibitor, with an IC50 of 0.31 μM, used as a conjugated drug of HER2-targeting ADC (DS-8201a) [1].

IC_{50} & Target

Topoisomerase I
0.31 μM (IC_{50})

In Vitro

Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Ogitani Y, et al. DS-8201a, A Novel HER2-Targeting ADC with a Novel DNA Topoisomerase I Inhibitor, Demonstrates a Promising Antitumor Efficacy with Differentiation from T-DM1. Clin Cancer Res. 2016 Oct 15;22(20):5097-5108.

[2]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019;53(2):211-216.

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