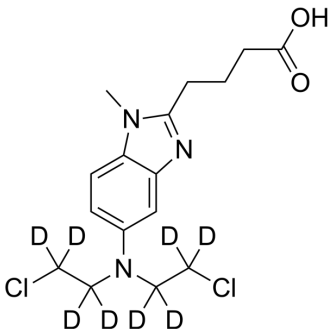
Bendamustine-d_8

Cat. No.:	HY-13567S1
CAS No.:	1134803-33-0
Molecular Formula:	$C_{16}H_{13}D_8Cl_2N_3O_2$
Molecular Weight:	366.31
Target:	DNA Alkylator/Crosslinker; Apoptosis
Pathway:	Cell Cycle/DNA Damage; Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Bendamustine-d_8 is the deuterium labeled Bendamustine[1]. Bendamustine (SDX-105 free base), a purine analogue, is a DNA cross-linking agent. Bendamustine activates DNA-damage stress response and apoptosis. Bendamustine has potent alkylating, anticancer and antimetabolite properties[2].
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[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

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

[2]. Leoni LM, et al. Bendamustine (Treanda) displays a distinct pattern of cytotoxicity and unique mechanistic features compared with other alkylating agents. Clin Cancer Res. 2008 Jan 1;14(1):309-17.

[3]. Cives M, et al. Bendamustine overcomes resistance to melphalan in myeloma cell lines by inducing cell death through mitotic catastrophe. Cell Signal. 2013 May;25(5):1108-17.

[4]. Ackler S, et al. Navitoclax (ABT-263) and bendamustine ± rituximab induce enhanced killing of non-Hodgkin's lymphoma tumours in vivo. Br J Pharmacol. 2012 Oct;167(4):881-91.

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