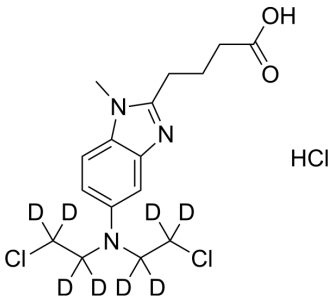
Bendamustine-d_8 hydrochloride

Cat. No.:	HY-B0077S1
CAS No.:	1185068-23-8
Molecular Formula:	$C_{16}H_{14}D_8Cl_3N_3O_2$
Molecular Weight:	402.77
Target:	DNA Alkylator/Crosslinker; Apoptosis; Isotope-Labeled Compounds
Pathway:	Cell Cycle/DNA Damage; Apoptosis; Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Bendamustine-d_8 (hydrochloride) is deuterium labeled Bendamustine (hydrochloride). Bendamustine hydrochloride (SDX-105), a purine analogue, is a DNA cross-linking agent. Bendamustine hydrochloride activats DNA-damage stress response and apoptosis. Bendamustine hydrochloride has potent alkylating, anticancer and antimetabolite properties[1].
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;53(2):211-216.

[2]. 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.

[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]. 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.

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

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