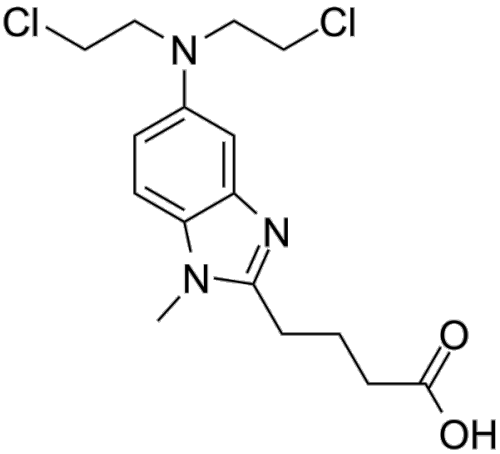
Product Data Sheet

Product Name: Bendamustine
Cat. No.: GC64354

Chemical Properties

Cas. No.	16506-27-7		
Formula	C16H21Cl2N3O2	M.Wt	358.26
Solubility	DMSO : 100 mg/mL (279.13 mM; Need ultrasonic)	Storage	-20°C, protect from light
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure			

Background

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[1].

Bendamustine is a DNA cross-linking agent that causes DNA breaks, with alkylating and antimetabolite properties. Bendamustine uniquely regulates apoptosis pathways and DNA repair pathways in non-Hodgkin's lymphoma cells. Bendamustine (50 μM) induces p21 (Cip1/Waf1) and NOXA genes, and increases the expression of p53 in SU-DHL-1 cells. Bendamustine (25 μM) blocks mitotic checkpoints and cuases mitotic catastrophe[1]. Bendamustine reduces the viability of multiple myeloma (MM) cell lines, such as RPMI-8226 and 8226-LR5 cells, with IC25s of 101.8 μM and 585.5 μM after 24 h incubation, and 51.7 and 374.3 μM after 48 h incubation, respectively. Bendamustine induces a specific caspase-dependent MM cell death and inhibits the spindle-assembly checkpoint[2].

Bendamustine (25 mg/kg, i.v.) shows potent inhibition on the growth of tumor cells by 91%, 99% and 95% for DoHH-2, Granta 519 and RAMOS models, respectively. Moreover, the antitumor effect of Bendamustine is enhanced by rituximab in DoHH-2 and RAMOS models, but not in Granta 519 model[3].

[1]. 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.
[2]. 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.
[3]. 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.