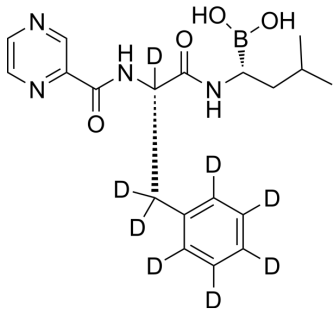
Bortezomib-d_8

Cat. No.:	HY-10227S
Molecular Formula:	$C_{19}H_{17}D_8BN_4O_4$
Molecular Weight:	392.29
Target:	Proteasome; Apoptosis; Autophagy; NF-κB
Pathway:	Metabolic Enzyme/Protease; Apoptosis; Autophagy; NF-κB
Storage:	-20°C, stored under nitrogen * In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen)



BIOLOGICAL ACTIVITY

Description	Bortezomib-d_8 is the deuterium labeled Bortezomib. Bortezomib (PS-341) is a reversible and selective proteasome inhibitor, and potently inhibits 20S proteasome (Ki=0.6 nM) by targeting a threonine residue. Bortezomib disrupts the cell cycle, induces apoptosis, and inhibits NF-κB. Bortezomib is the first proteasome inhibitor anticancer agent. Anti-cancer activity[1][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;53(2):211-216.

[2]. Adams J, et al. Proteasome inhibitors: a novel class of potent and effective antitumor agents. Cancer Res. 1999 Jun 1;59(11):2615-22.

[3]. Shahshahan MA, et al. Potential usage of proteasome inhibitor bortezomib (Velcade, PS-341) in the treatment of metastaticmelanoma: basic and clinical aspects. Am J Cancer Res. 2011;1(7):913-24.

[4]. Pérez-Galán P, et al. The proteasome inhibitor bortezomib induces apoptosis in mantle-cell lymphoma through generation of ROS and Noxa activation independent of p53 status. Blood. 2006 Jan 1;107(1):257-64.

[5]. Yerlikaya A, et al. Combined effects of the proteasome inhibitor bortezomib and Hsp70 inhibitors on the B16F10 melanoma cell line. Mol Med Rep. 2010 Mar-Apr;3(2):333-9.

[6]. Mujtaba T, et al. Advances in the understanding of mechanisms and therapeutic use of bortezomib. Discov Med. 2011 Dec;12(67):471-80.

[7]. Fernández Y, et al. Chemical blockage of the proteasome inhibitory function of bortezomib: impact on tumor cell death. J Biol Chem. 2006 Jan 13;281(2):1107-18.

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

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