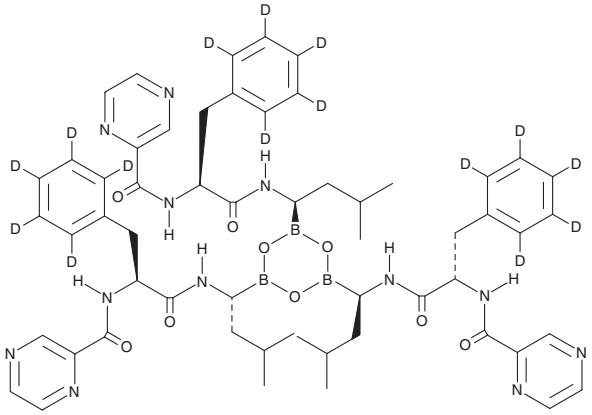
PRODUCT INFORMATION

Bortezomib-d_{15}

Item No. 22367

Formal Name:	N,N',N''-((2S,2'S,2''S)-(((1R,1'R,1''R)-(1,3,5,2,4,6-trioxatriborinane-2,4,6-triyl)*tris*(3-methylbutane-1,1-diyl))tris(azanediyl))*tris*(1-oxo-3-(phenyl-d_5)propane-1,2-diyl))*tris*(pyrazine-2-carboxamide)
Synonyms:	LDP-341-d_{15}, MG-341-d_{15}, PS-341-d_{15}
MF:	$C_{57}H_{54}D_{15}B_3N_{12}O_9$
FW:	1,113.8
Chemical Purity:	≥95% (Bortezomib)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_{15}); ≤1% d_0
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Bortezomib-d_{15} is intended for use as an internal standard for the quantification of bortezomib (Item No. 10008822) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Bortezomib-d_{15} is supplied as a solid. A stock solution may be made by dissolving the bortezomib-d_{15} in the solvent of choice, which should be purged with an inert gas. Bortezomib-d_{15} is soluble in methanol and DMSO.

Description

When stored as a lyophilized solid, bortezomib exists as in a trimeric boroxine form but exists as the free boronic acid in solution.[1] Bortezomib is a dipeptide boronic acid derivative that reversibly inhibits the 20S proteasome (K_i = 0.6 nM).[2] It binds the β5-subunit of the 20S proteasome and selectively inhibits chymotryptic activity.[3-5] Bortezomib blocks the degradation of tumor-suppressing and proapoptotic proteins to induce cell cycle arrest and apoptosis in cancer cell lines.[2,6]

References

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2. Yamauchi, T., Keating, M.J., and Plunkett, W. Mol. Cancer Ther. **1(4)**, 287-294 (2002).
3. Lightcap, E.S., McCormack, T.A., Pien, C.S., *et al. Clin.Chem.* **46(5)**, 673-683 (2000).
4. Adams, J. *Oncologist* **7(1)**, 9-16 (2002).
5. Dou, Q.P. and Zonder, J.A. *Curr. Cancer Drug Targets* **14(6)**, 517-536 (2014).
6. Richardson, P.G., Hideshima, T., and Anderson, K.C. *Cancer Control* **10(5)**, 361-369 (2003).

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