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PRODUCT INFORMATION



Bortezomib-d₁₅ 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-d₅)propane-1,2-diyl))tris(pyrazine-2-carboxamide)

Synonyms: LDP-341-d₁₅, MG-341-d₁₅, PS-341-d₁₅

MF: C₅₇H₅₄D₁₅B₃N₁₂O₉

FW: 1,113.8

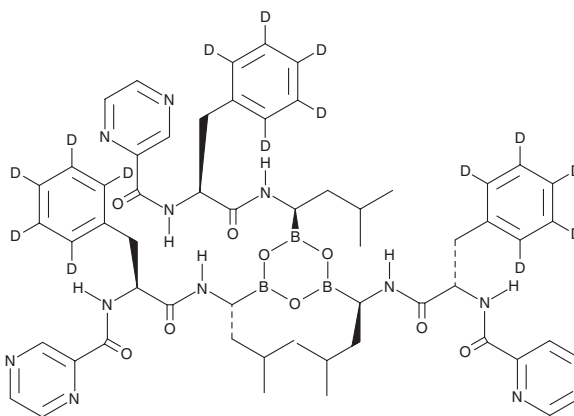
Chemical Purity: ≥95% (Bortezomib)

Deuterium Incorporation: ≥99% deuterated forms (d₁-d₁₅); ≤1% d₀

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-d₁₅ 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-d₁₅ is supplied as a solid. A stock solution may be made by dissolving the bortezomib-d₁₅ in the solvent of choice, which should be purged with an inert gas. Bortezomib-d₁₅ 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 $\beta 5$ -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

1. Byrn, S.R., Tishmack, P.A., Milton, M.J., *et al.* *AAPS PharmSciTech* **12**(2), 461-467 (2011).
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).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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