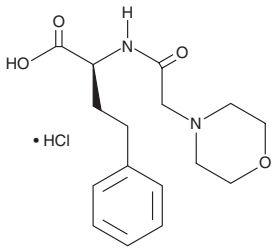
PRODUCT INFORMATION

Carfilzomib Impurity 13 (hydrochloride)

Item No. 22385

CAS Registry No.: 2319881-95-1
Formal Name: αS-[[2-(4-morpholinyl)acetyl]amino]-benzenebutanoic acid, monohydrochloride
MF: $C_{16}H_{22}N_2O_4 \bullet HCl$
FW: 342.8
Purity: ≥95%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years
Special Conditions: Store in hygroscopic conditions



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

Laboratory Procedures

Carfilzomib impurity 13 (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the carfilzomib impurity 13 (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Carfilzomib impurity 13 (hydrochloride) is soluble in the organic solvent DMSO.

Description

Carfilzomib impurity 13 (hydrochloride) is a potential impurity found in commercial carfilzomib preparations. Carfilzomib (Item No. 17554) is a second-generation, irreversible, peptide epoxyketone class proteasome inhibitor that targets the chymotrypsin-like β5 subunit of the constitutive 20S proteasome (IC_{50} = 5.2 nM) and the β5i subunit of the immunoproteasome 20Si (LMP7; IC_{50} = 14 nM) with minimal cross reactivity to other proteases.[1,2] It can induce cell cycle arrest and apoptosis in human cancer cell lines including multiple myeloma, lymphoma, and various solid tumors (IC_{50}s = 2.4-20 nM).[3]

References

1. Dou, Q.P., and Zonder, J.A. Overview of proteasome inhibitor-based anti-cancer therapies: Perspective on bortezomib and second generation proteasome inhibitors versus future generation inhibitors of ubiquitin-proteasome system. *Curr. Cancer Drug Targets* **14(6)**, 517-536 (2014).
2. Zhou, H.J., Aujay, M.A., Bennett, M.K., *et al.* Design and synthesis of an orally bioavailable and selective peptide epoxyketone proteasome inhibitor (PR-047). *J. Med. Chem.* **52(9)**, 3028-3038 (2009).
3. Demo, S.D., Kirk, C.J., Aujay, M.A., *et al.* Antitumor activity of PR-171, a novel irreversible inhibitor of the proteasome. *Cancer Res.* **67(13)**, 6383-6391 (2007).

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