

Product Data Sheet

Product Name: AM 114
Cat. No.: GC13789

Chemical Properties

Cas. No. 856849-35-9

Chemical Name [4-[(Z)-[(5Z)-5-[(4-boronophenyl)methylidene]-1-methyl-4-oxopiperidin-3-ylidene]methyl]phenyl]boronic acid

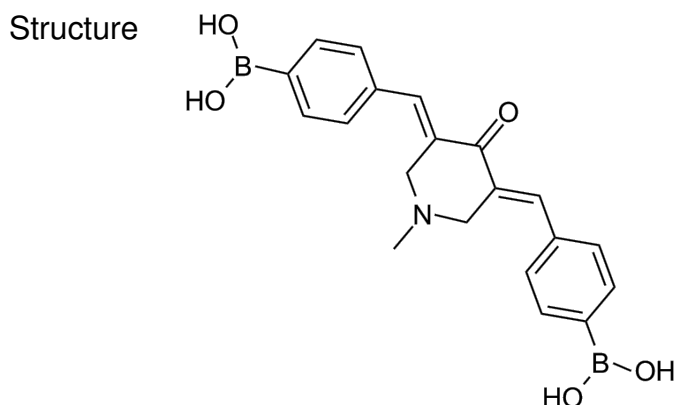
SMILES B(C1=CC=C(C=C1)C=C2CN(CC(=CC3=CC=C(C=C3)B(O)O)C2=O)C)(O)O

Formula $C_{20}H_{21}B_2NO_5$ M.Wt 377.01

Solubility $\geq 16.65\text{mg/mL}$ in DMSO, $\geq 4.11\text{mg/mL}$ in EtOH with ultrasonic Storage Store at 4°C

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.



Background

AM 114, a derivative of boronic chalcone, is a potent small-molecule inhibitor of the proteasome that

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inhibits the chymotrypsin-like activity of the 20S proteasome, with a value of 50% inhibition concentration IC₅₀ of approximately 1 μ M, resulting in a significant accumulation of ubiquitinated p53 and other cellular proteins in whole cells without significantly disrupting the interaction of p53 and murine double minute 2 (mdm2) proteins. AM 114 also exerts anti-cancer activity against cancer cells, which potently inhibits the growth of human colon cancer HCT116 cells with values of IC₅₀ of 1.5 μ M and 0.6 μ M in MTT and colony formation assays respectively.

Reference

[1]. Achanta G, Modzelewska A, Feng L, Khan SR, Huang P. A boronic-chalcone derivative exhibits potent anticancer activity through inhibition of the proteasome. *Mol Pharmacol.* 2006 Jul;70(1):426-33. Epub 2006 Apr 24.

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