

Product Specification Sheet

Product Name: PCI-32765 (Ibrutinib)

Catalog Number: C7327

Technical information:

Chemical Formula: $C_{25}H_{24}N_6O_2$

CAS #: 936563-96-1

Molecular Weight: 440.5

Purity: > 99%

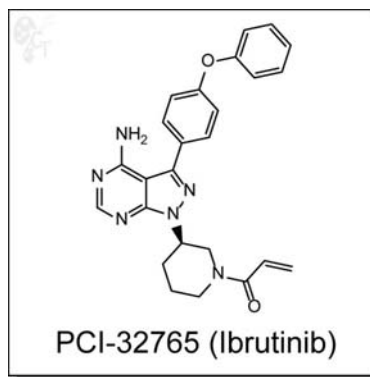
Appearance: White solid

Solubility: Soluble in DMSO up to 100 mM

Chemical Name: (R)-1-(3-(4-amino-3-(4-phenoxyphenyl)-1H-pyrazolo[3,4-d]pyrimidin-1-yl)piperidin-1-yl)prop-2-en-1-one

Storage: Store solid powder at 4°C desiccated; Store DMSO solution at -20°C.

Shelf Life: In the unopened package, powder is stable for 1 year and DMSO solution is stable for 6 months under proper storage condition.



Handling: • To make 10 mM stock solution, add 0.227 mL of DMSO for each mg of PCI-32765 (Ibrutinib)

- For DMSO solution, briefly spin the vial at 500 rpm in a 50 mL conical tube to ensure maximum sample recovery.

Biological Activity: PCI-32765 (Ibrutinib) is a selective and irreversible pyrrolopyrimidine-based inhibitor of BTK with IC₅₀ of 0.5 nM. [1] PCI-32765 binds irreversibly to Cys-481 in BTK and thus is only active with other kinases with such a modifiable cysteine residue. In DOHH2 cells, in which the BCR pathway can be activated by anti-IgG, PCI-32765 inhibits autophosphorylation of BTK (IC₅₀, 11 nM), BTK's physiological substrate, PLCg (IC₅₀, 29 nM), and downstream ERK (IC₅₀, 13 nM). [1]

Additionally, PCI-32765 has been shown in CD40- or BCR-activated chronic lymphocytic leukemia cells to inhibit ERK1/2, PI3K, and NFκB. [2] PCI-32765 is efficacious in collagen-induced arthritis models in a dose dependent manner, reversing inflammation at an ED₅₀ of 2.6 mg/kg/day. [3]. PCI-32765 also inhibits BCR-activated primary B-cell proliferation at an IC₅₀ of 8 nM. [3]

- Reference:**
1. Honigberg et al., The Bruton tyrosine kinase inhibitor PCI-32765 blocks B-cell activation and is efficacious in models of autoimmune disease and B-cell malignancy. *Proc. Natl. Acad. Sci.* 2010, 107(29), 13075-13080. Pubmed ID: 20615965
 2. Herman et al., Bruton tyrosine kinase represents a promising therapeutic target for treatment of chronic lymphocytic leukemia and is effectively targeted by PCI-32765. *Blood*, 2011, 117, 6287-6296. Pubmed ID: 21422473
 3. Chang et al., The Bruton tyrosine kinase inhibitor PCI-32765 ameliorates autoimmune arthritis by inhibition of multiple effector cells. *Arthritis Res. Ther.* 2011. 13(4). R115. Pubmed ID: 21752263

To reorder: <http://www.cellagentech.com/PCI-32765-Ibrutinib/>

For Technical Support: technical@cellagentech.com

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