Revision 6

Store at -20C

#16483

Ibrutinib

10 mg

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Background

Ibrutinib, also known as PCI-32765, is a small molecule inhibitor of Bruton's tyrosine kinase (Btk) (1,2). Research studies demonstrate that ibrutinib inhibits autophosphorylation of Btk as well as downstream targets such as PLCγ2 and ERK by binding to Cys481 in the active site (1,2). The inhibition of Btk also prevents NFκB DNA binding, reduces cell migration, proliferation and survival, inhibits DNA synthesis and induces apopotosis (1).

Molecular Formula

$C_{25}H_{24}N_6O_2$

Molecular Weight

440.5 g/mol

Purity

>99%

CAS

936563-96-1

Solubility

Soluble in DMSO at 200mg/ml and EtOH at 25mg/ml.

Storage

Store lyophilized or in solution at -20C, dessicated. Protect from light. In lyophilized form, the chemical is stable for 24 months. Once in solution, use within 3 months to prevent loss of potency. Aliquot to avoid mulitple freeze/thaw cycles.

Directions for Use

Ibrutinib is supplied as a lyophilized powder. For a 20mM stock, reconstitute the 10 mg of powder in 1.14 ml DMSO. Working concentrations and length of treatment can vary depending on the desired effect, but it is typically used as a pretreatment at 1-10 µM for 1 hour prior to treating with a stimulator.

Background References

1. Aalipour, A. and Advani, R.H. (2014) *Ther Adv Hematol* 5, 121-33.
2. Chang, B.Y. et al. (2011) *Arthritis Res Ther* 13, R115.

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Limited Uses