Revision 3

Store at -20C

#12209

# Nilotinib

Cell Signaling TECHNOLOGY®

**Orders:** 877-616-CELL (2355)
orders@cellsignal.com

**Support:** 877-678-TECH (8324)

**Web:** info@cellsignal.com
cellsignal.com

**3 Trask Lane | Danvers | Massachusetts | 01923 | USA**

**For Research Use Only. Not for Use in Diagnostic Procedures.**

## Background

Nilotinib (AMN-107) is a novel tyrosine kinase inhibitor that potently inhibits Bcr-Abl. Nilotinib is more effective than imatinib at decreasing the proliferation and viability in cells expressing wild-type Bcr-Abl and is active against many imatinib-resistant Bcr-Abl mutants, with the exception of T315I (1-4). Nilotinib has been shown to inhibit Abl activity in cells expressing wild-type Abl and imatinib-resistant mutant Abl, with ~20-fold greater potency than imatinib. Nilotinib is similarly effective at inhibiting Abl autophosphorylation (3). Research studies have demonstrated that nilotinib treatment of Bcr-Abl-expressing K-562 cells attenuates Stat5 and CrkL phosphorylation, decreases Bcl-xL and c-Myc expression, induces p27 and Bim expression, and induces PARP cleavage. Many of these effects are enhanced by cotreatment with the histone deacetylase inhibitor LBH589 (5).

## Molecular Formula

$C_{28}H_{22}F_3N_7O$

## Molecular Weight

529.52 g/mol

## Purity

>99%

## CAS

641571-10-0

## Solubility

Soluble in DMSO at 50mg/ml.

## Storage

Store lyophilized or in solution at -20°C, desiccated. 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 multiple freeze/thaw cycles.

## Directions for Use

Nilotinib is supplied as a lyophilized powder. For a 5 mM stock, reconstitute the 5 mg in 1.89 ml DMSO. Working concentrations and length of treatment can vary depending on the desired effect, but it is typically used at 10-1000 nM for 2-72 hr. Nilotinib is soluble in DMSO at 50 mg/ml; very poorly soluble in ethanol and water with maximum solubility in water at ~10-20 µM.

## Background References

1. Weisberg, E. et al. (2006) *Br J Cancer* 94, 1765-9.
2. Golemovic, M. et al. (2005) *Clin Cancer Res* 11, 4941-7.
3. O'Hare, T. et al. (2005) *Cancer Res* 65, 4500-5.
4. Weisberg, E. et al. (2005) *Cancer Cell* 7, 129-41.
5. Fiskus, W. et al. (2006) *Blood* 108, 645-52.

## Trademarks and Patents



## Limited Uses

commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.