

# Imatinib

Catalog No: **tcsc0964**



## Available Sizes

Size: 1g

Size: 5g



## Specifications

### CAS No:

152459-95-5

### Formula:

$C_{29}H_{31}N_7O$

### Pathway:

Protein Tyrosine Kinase/RTK;Protein Tyrosine Kinase/RTK;Autophagy;Protein Tyrosine Kinase/RTK

### Target:

Bcr-Abl;PDGFR;Autophagy;c-Kit

### Purity / Grade:

>98%

### Solubility:

DMSO : 40 mg/mL (81.04 mM; Need ultrasonic and warming)

### Alternative Names:

STI571

### Observed Molecular Weight:

493.6

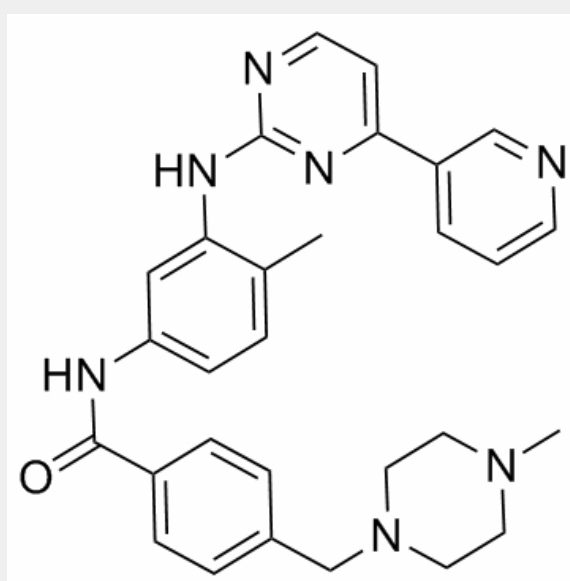
## Product Description

Imatinib is a known inhibitor of the **c-Kit**, **Bcr-Abl**, and **PDGFR** tyrosine kinases, inhibits the SLF-dependent activation of c-Kit<sup>wt</sup> kinase with **IC<sub>50</sub>** of ~100 nM, which is similar to the concentration requires for inhibition of Bcr-Abl and PDGFR.

IC50 & Target: IC50: ~100 nM (c-Kit, Bcr-Abl, and PDGFR)<sup>[1]</sup>

**In Vitro:** Imatinib (STI571) inhibits c-Kit autophosphorylation, activation of MAPK, and activation of Akt without altering total protein levels of c-kit, MAPK, or Akt. The concentration that produces 50% inhibition for these effects is approximately 100 nM<sup>[1]</sup>. Imatinib (STI571) is very effective (in vitro IC<sub>50</sub> of 25 nM) against the chronic myeloid leukemia-causing kinase Bcr-Abl. Imatinib also efficiently inhibits Kit (in vitro IC<sub>50</sub>, 410 nM) and PDGFR (in vitro IC<sub>50</sub>, 380 nM)<sup>[2]</sup>. Imatinib (STI571) is a multi-target inhibitor of v-Abl, c-Kit and inhibits Bcr/Abl, v-Abl, Tel/Abl, the native PDGFβ receptor, and c-Kit, but it does not inhibit Src family kinases, c-Fms, Flt3, the EGFR or multiple other tyrosine kinases. Imatinib inhibits tyrosine phosphorylation and cell growth of Ba/F3 cells expressing Bcr/Abl, Tel/Abl, Tel/PDGFR, and Tel/Arg with an IC<sub>50</sub> of approximately 0.5 μM in each case, but it has no effect on untransformed Ba/F3 cells growing in IL-3 or on Ba/F3 cells transformed by Tel/JAK2<sup>[3]</sup>. The IC<sub>50</sub>s of Imatinib(STI571) is a multi-target inhibitor of v-Abl, c-Kit and on BON-1 and H727 cells after exposure for 48 h are 32.4 and 32.8 μM, respectively<sup>[4]</sup>.

**In Vivo:** In the phosphorothioate antisense oligodeoxynucleotides (PS-ASODN) group, tumor growth is inhibited by 59.437%, which is markedly higher than in the Imatinib (STI571) is a multi-target inhibitor of v-Abl, c-Kit and group (11.071%) and liposome negative control group (2.759%). Telomerase activity is significantly lower (P[5]. Imatinib (25 mg/kg/day, p.o.) suppresses the growth of endometriotic tissue and reduces the number of ovarian follicles in a rat model. Imatinib effectively treats experimental endometriosis by its inhibitor effects on angiogenesis and cell proliferation<sup>[6]</sup>.



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!