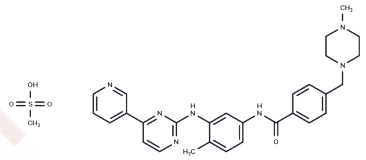
Data Sheet (Cat.No.T1621)

TargetMol

Imatinib Mesylate

Chemical Properties



CAS No. : 220127-57-1

Formula: C29H31N7O·CH4SO3

Molecular Weight: 589.71

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Imatinib Mesylate (STI-571) is a tyrosine kinase receptor inhibitor with antineoplastic activity (IC50s: 0.6 μM, 0.1 μM and 0.1 μM for v-Abl, c-Kit and PDGFR, respectively).
Targets(IC50)	Bcr-Abl,Autophagy,c-Kit,PDGFR
In vitro	Inhibition of Steel factor (SLF)-induced c-kit autophosphorylation by STI 571 was dose-dependent, with complete inhibition observed at both 10 and 1.0 μmol/L. Inhibition was also apparent at a dose of 0.5 μmol/L, although limited c-kit autophosphorylation still occurred. Complete inhibition of MAP kinase activation occurred at 10- and 1.0-μmol/L concentrations of STI 571. Partial inhibition was observed at a dose of 0.1 μmol/L, and no inhibition occurred at a dose of 0.01 μmol/L. Total MAP kinase expression was not altered by treatment with STI 571 [1]. Exposure of cells to 1 μM STI571 for 24 hours before lysis resulted in a reduction of cellular tyrosine phosphorylation in general and of TEL/ARG specifically [2]. Imatinib had a more similar effect on Bcr/Abl- and c-Kit-dependent proliferation, with an IC50 of 19 nM in R10(-) cells and 82 nM in MO7e cells growing in the presence of SCF (KL, Kit ligand), respectively [3].
In vivo	The treatment of imatinib significantly reduced the incidence of adenocarcinomas (47.1% vs. 76.9% of untreated TRAMP mice) but had no effect against NE tumors, which instead significantly increased in frequency (23.5% vs. 15.4% of untreated TRAMP mice) [4]. In the imatinib group, lung function was improved with a lower W/D ratio. Perivascular edema and neutrophil infiltration were ameliorated. The imatinib group demonstrated maintained expression of VEC, inhibition of pCrkL, and a significantly higher level of interleukin (IL)-10 [5].
Cell Research	Cells were added to 96-well plates at a density of 20?000 cells/well for HMC-1 and 50?000 cells/well for M-07e. Experiments with M-07e were performed with the use of GM-CSF or SLF as a growth factor supplement. Experiments using HMC-1 were performed without growth factor supplementation. Proliferation at 48 hours was measured with an XTT-based assay [1].
Animal Research	Heterozygous experimental TRAMP mice were obtained by breeding wild-type C57BL/6 male mice and heterozygous female TRAMP mice. MC-deficient C57BL/6-KitW-sh/W-sh mice were intercrossed over 12 generations with TRAMP mice to obtain MC-deficient KitWsh-TRAMP mice. Cromolyn (10 mg/kg dissolved in saline; Sigma Aldrich) or imatinib (50 mg/kg dissolved in saline) were administered intraperitoneally in TRAMP mice for 5 days/week. Treatments started at 8 or 16 weeks, as indicated in text and figures, and

continued for the duration of the experiment. Mice were sacrificed at 25 weeks and their urogenital apparatus collected for IHC [4].

Solubility Information

Solubility	H2O: 59 mg/mL (100.05 mM),Sonication is recommended. DMSO: 50 mg/mL (84.79 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.6957 mL	8.4787 mL	16.9575 mL
5 mM	0.3391 mL	1.6957 mL	3.3915 mL
10 mM	0.1696 mL	0.8479 mL	1.6957 mL
50 mM	0.0339 mL	0.1696 mL	0.3391 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Reference

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