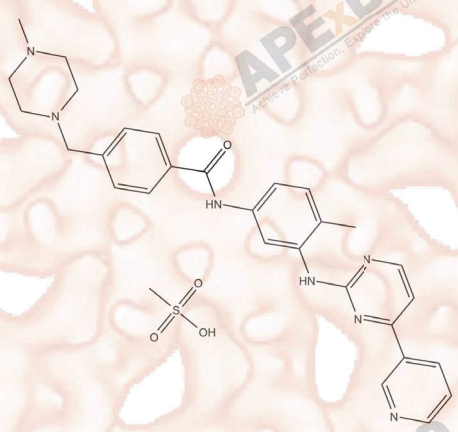
Product Data Sheet

Imatinib Mesylate (STI571)

Cat. No.: A1805
CAS No.: 220127-57-1
Formula: C29H31N7O·CH4SO3
M.Wt: 589.71
Synonyms:
Target: TGF-β / Smad Signaling
Pathway: Bcr-Abl
Storage: Store at -20°C



Solvent & Solubility

In Vitro

≥29.5mg/mL in DMSO

Preparing Stock Solutions

Mass / Solvent / Concentration	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

Please refer to the solubility information to select the appropriate solvent.

Biological Activity

Shortsummary	Abl/c-kit/PDGFR inhibitor
IC_{50} & Target	600 nM (v-Abl), 100 nM (PDGFR), 100 nM (c-Kit)

In Vitro

Cell Viability Assay

Cell Line:	T cells
Preparation method：	The solubility of this compound in DMSO is >10 mM. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.
Reacting conditions:	IC50: 3.9 μM for inhibiting DCs-stimulated T-cell proliferation 2.9 μM for inhibiting PHA-stimulated T-cell proliferation 4 days

	Applications:	Cells were stimulated with allogeneic mature DCs or PHA in the presence of imatinib mesylate. The drug inhibited T-cell proliferation as a function of concentration. The effects were significant at 0.5 μM imatinib mesylate for the cells stimulated by DCs and at 1.0 μM imatinib mesylate for the cells stimulated with PHA. The IC50 values for imatinib mesylate–inhibited T-cell proliferation stimulated by DCs and PHA were 3.9 μM and 2.9 μM, respectively.
In Vivo	**Animal experiment**	
	Animal models:	Female C57BL/6 mice
	Dosage form:	Intraperitoneal injection, 25 or 50mg/kg/day
	Applications:	Administration of imatinib alone did not generate any changes in lung morphology. However, when imatinib was administered in bleomycin-treated mice, a reduction of fibrotic lesions in the subpleural areas of lung was observed at doses of 25 and 50 mg/kg/day. The quantitative histologic analysis demonstrated that the fibrotic score in mice treated with bleomycin and 50 mg/kg/day of imatinib was significantly lower than that treated with bleomycin alone. The collagen content of the lung was also significantly lower in mice treated with bleomycin and imatinib (50 mg/kg/day) as compared with those treated with bleomycin alone.
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations

1. Ivey MJ, Kuwabara JT, et al. "Platelet-derived growth factor receptor-α is essential for cardiac fibroblast survival." Am J Physiol Heart Circ Physiol. 2019 Aug 1;317(2):H330-H344.PMID:31125253

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References

[1] Dietz A B, Souan L, Knutson G J, et al. Imatinib mesylate inhibits T-cell proliferation in vitro and delayed-type hypersensitivity in vivo. Blood, 2004, 104(4): 1094-1099.

[2] Aono Y, Nishioka Y, Inayama M, et al. Imatinib as a novel antifibrotic agent in bleomycin-induced pulmonary fibrosis in mice. American journal of respiratory and critical care medicine, 2005, 171(11): 1279-1285.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable

under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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