产品名称：PD153035 HCl
产品别名：PD153035 Hydrochloride

生物活性：

Description

PD153035 Hydrochloride (SU-5271 Hydrochloride) is a potent **EGFR** inhibitor with K_i and IC_{50} of 6 and 25 pM, respectively.

IC_{50} & Target

EGFR	EGFR
6 pM (Ki)	25 pM (IC_{50})

In Vitro

PD153035 inhibits EGF-stimulated receptor autophosphorylation in A431 human epidermoid carcinoma cells, with an IC50 of 14 nM[1]. PD153035 has little effect on PDGFR, FGFR, CSF-1 receptor, the insulin receptor, or on src tyrosine kinases at concentrations as high as 50 μM. PD153035 rapidly suppresses autophosphorylation of the EGF receptor at low nanomolar concentrations in fibroblasts or in human epidermoid carcinoma cells and selectively blocks EGF-mediated cellular processes including mitogenesis, early gene expression, and oncogenic transformation[2]. PD153035 causes a dose-dependent growth inhibition of EGF receptor-positive cell lines, beginning at less than micromolar concentrations, and the IC50 is less than 1 pM in most cases[3].

In Vivo

PD153035 levels in the plasma and tumor rise to 50 and 22 μM within 15 minutes following a single i.p. dose of 80 mg/kg. While the plasma levels of PD 153035 falls below 1 μM by 3 hours, in the tumors it remains at micromolar concentrations for at least 12 hours. The tyrosine phosphorylation of the EGF receptor is rapidly suppressed by 80-90% in the tumors[4].

Solvent&Solubility

In Vitro:

DMSO : 5.125 mg/mL (12.92 mM; Need ultrasonic and warming)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.5210 mL	12.6049 mL	25.2099 mL
5 mM	0.5042 mL	2.5210 mL	5.0420 mL
10 mM	0.2521 mL	1.2605 mL	2.5210 mL

*请根据产品在不同溶剂中的溶解度选择合适的溶剂配制储备液；一旦配成溶液，请分装保存，避免反复冻融造成的产品失效。

储备液的保存方式和期限：-80°C, 6 months; -20°C, 1 month。-80°C 储存时，请在 6 个月内使用，-20°C 储存时，请在 1 个月内使用。

References

[1]. Bridges AJ, et al. Tyrosine kinase inhibitors. 8. An unusually steep structure-activity relationship for analogues of 4-(3-bromoanilino)-6,7-dimethoxyquinazoline (PD 153035), a potent inhibitor of the epidermal growth factor receptor. J Med Chem. 1996 Jan 5;39(1):267-76.

[2]. Fry DW, et al. A specific inhibitor of the epidermal growth factor receptor tyrosine kinase. Science. 1994 Aug 19;265(5175):1093-5.

[3]. Bos M, et al. PD153035, a tyrosine kinase inhibitor, prevents epidermal growth factor receptoractivation and inhibits growth of cancer cells in a receptor number-dependent manner. Clin Cancer Res. 1997 Nov;3(11):2099-106.

[4]. Kunkel MW, et al. Inhibition of the epidermal growth factor receptor tyrosine kinase by PD153035 in human A431 tumors in athymic nude mice. Invest New Drugs. 1996;13(4):295-302.

实验参考：

Cell Assay	Different EGF receptor-overexpressing cell lines (A43 1, Difi, MDA-MB-468, MDA-MB-231, DU145, SiHa, C4i, and MEl 80) are treated with PD153035 at increasing concentrations of 0.125-2.5 p.M. Growth inhibitory effect in monolayer cell culture is assessed[3].
Animal Administration	Mice: Mice are injected with PD153035 (80 mg/kg) or vehicle and rumors are excised at 20 minutes and 180 minutes and extracts are prepared. Two mice are used for each time point and the experiment is repeated four times. Within each of the four experiments ANOVA is used to compare the inhibition by PD 153035 of the EGF-stimulation[3].
References	[1]. Bridges AJ, et al. Tyrosine kinase inhibitors. 8. An unusually steep structure-activity relationship for analogues of 4-(3-bromoanilino)-6,7-dimethoxyquinazoline (PD 153035), a potent inhibitor of the epidermal growth factor receptor. J Med Chem. 1996 Jan 5;39(1):267-76. [2]. Fry DW, et al. A specific inhibitor of the epidermal growth factor receptor tyrosine kinase. Science. 1994 Aug 19;265(5175):1093-5. [3]. Bos M, et al. PD153035, a tyrosine kinase inhibitor, prevents epidermal growth factor receptoractivation and inhibits growth of cancer cells in a receptor number-dependent manner. Clin Cancer Res. 1997 Nov;3(11):2099-106. [4]. Kunkel MW, et al. Inhibition of the epidermal growth factor receptor tyrosine kinase by PD153035 in human A431 tumors in athymic nude mice. Invest New Drugs. 1996;13(4):295-302.