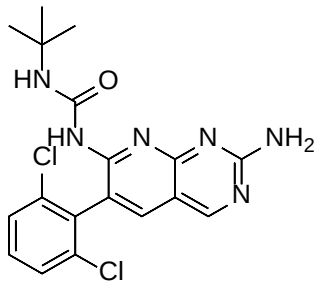
Product data sheet

MedKoo Cat#: 406476 Name: PD089828 CAS: 179343-17-0 Chemical Formula: $C_{18}H_{18}Cl_2N_6O$ Exact Mass: 404.0919 Molecular Weight: 405.2811	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:

PD089828 is a potent FGFR inhibitor, which inhibits human full-length fibroblast growth factor (FGF) receptor-1 (FGFR-1), platelet-derived growth factor (PDGF) receptor beta subunit (PDGFR-beta), Src nonreceptor tyrosine kinase (c-Src) and epidermal growth factor (EGF) receptor (EGFR) tyrosine kinases with half-maximal inhibitory potencies (IC50 values) of 0.15 +/- 0.02 (n = 4), 0.18 +/- 0.04 (n = 3), 1.76 +/- 0.28 (n = 4) and 5.47 +/- 0.78 (n = 6) microM, respectively. The results highlight the biological characteristics of PD 089828 as a novel, broadly active protein tyrosine kinase inhibitor with long-lasting but reversible cellular effects. The potential therapeutic use of these broadly acting, nonselective inhibitors as antiproliferative and antimigratory agents could extend to such diseases as cancer, atherosclerosis and restenosis in which redundancies in growth-signaling pathways are known to exist.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	25.0	61.69
Ethanol	1.0	2.47

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.47 mL	12.34 mL	24.67 mL
5 mM	0.49 mL	2.47 mL	4.93 mL
10 mM	0.25 mL	1.23 mL	2.47 mL
50 mM	0.05 mL	0.25 mL	0.49 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

Dahring TK, Lu GH, Hamby JM, Batley BL, Kraker AJ, Panek RL. Inhibition of growth factor-mediated tyrosine phosphorylation in vascular smooth muscle by PD 089828, a new synthetic protein tyrosine kinase inhibitor. J Pharmacol Exp Ther. 1997 Jun;281(3):1446-56. PMID: 9190882.

In vivo study

TBD

7. Bioactivity

Biological target:

PD-089828 is an ATP competitive inhibitor of FGFR-1, PDGFR-β and EGFR (IC50s=0.15, 1.76, and 5.47 μM, respectively) and a noncompetitive inhibitor of c-Src tyrosine kinase (IC50=0.18 μM).

Product data sheet

In vitro activity

PD 089828 was further characterized as an ATP competitive inhibitor of the growth factor receptor tyrosine kinases (FGFR-1, PDGFR-beta and EGFR) but a noncompetitive inhibitor of c-Src tyrosine kinase with respect to ATP. In addition, PD 089828 inhibited PDGF- and EGF-stimulated receptor autophosphorylation in vascular SMC (VSMC) and basic FGF-mediated tyrosine phosphorylation in A121 cells with IC50 values similar to the potencies observed for inhibition of receptor tyrosine kinase activity. PD 089828 also inhibited the PDGF-induced tyrosine phosphorylation of the 44- and 42-kDa mitogen-activated protein kinase isoforms. Moreover, the effects of PD 089828 were demonstrated in functional assays in which PDGF-stimulated DNA synthesis, PDGF-directed migration and serum-stimulated growth of VSMC were all inhibited to the same extent as PDGF receptor autophosphorylation (IC50 = 0.8, 4.5 and 1.8 microM, respectively).

Reference: J Pharmacol Exp Ther. 1997 Jun;281(3):1446-56. https://pubmed.ncbi.nlm.nih.gov/9190882/

In vivo activity

TBD

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.