PD173074 is a selective and potent, ATP-competitive inhibitor of fibroblast growth factor receptor (FGFR). It acts on both FGFR3 and FGFR1 (IC₅₀ = 5 and 21.5 nM respectively), and also inhibits FGFR2, FGFR4 and vascular endothelial growth factor receptor 2 (VEGFR2). It is approximately 1000 times more potent than another common FGFR inhibitor SU5402 (Catalog #73912). PD173074 shows little to no activity against PDGFR, EGFR, MEK, or PKC (Koziczak et al.; Mohammadi et al.; Trudel et al.).

**Chemical Name:**
N-{[2-([4-(diethylamino)butyl]amino)-6-(3,5-dimethoxyphenyl)pyrido[2,3-d]pyrimidin-7-yl]-N’-(1,1-dimethylethyl)-urea

**Structure:**

![PD173074 Structure](image)

**Properties**

**Physical Appearance:**
A crystalline solid

**Storage:**
Product stable at -20°C as supplied. Protect from prolonged exposure to light.
Stable as supplied for 12 months from date of receipt.

**Solubility:**
- DMSO ≤ 20 mM
  - For example, to prepare a 10 mM stock solution in DMSO, resuspend 1 mg in 190 µL of fresh DMSO.

Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.
Published Applications

MAINTENANCE AND SELF-RENEWAL
- Suppresses the differentiation of mouse ES cells and maintains the undifferentiated state (Kunath et al.; Ying et al.).

REPROGRAMMING
- Prevents excision-mediated differentiation of mouse induced pluripotent stem cells generated using piggyBac transposons (Kaji et al.).
- Promotes reprogramming of human embryonic stem (ES) cells to naïve cells, or their maintenance in a naïve state, in combination with OCT4, KLF4, KLF2, LIF (Catalog #78055), CHIR99021 (Catalog #72052), and PD0325901 (Catalog #72182) (Hanna et al.).

DIFFERENTIATION
- Blocks neural differentiation of mouse ES cells (Stavridis et al.).
- Promotes differentiation of human ES cells, but not when they are in a naïve or ground state (Hanna et al.).

References

Mohammadi M et al. (1998) Crystal structure of an angiogenesis inhibitor bound to the FGF receptor tyrosine kinase domain. EMBO J 17(20): 5896–904.

Related Small Molecules

For a complete list of small molecules available from STEMCELL Technologies, visit www.stemcell.com/smallmolecules or contact us at techsupport@stemcell.com.

This product is hazardous. Please refer to the Safety Data Sheet (SDS).