Dovitinib
Item No. 15220

CAS Registry No.: 405169-16-6
Formal Name: 4-amino-5-fluoro-3-[6-(4-methyl-1-piperazinyl)-1H-benzimidazol-2-yl]-2(1H)-quinolinone
MF: C_{21}H_{21}FN_6O
FW: 392.4
Purity: ≥98%
UV/Vis.: \lambda_{max}: 232, 290, 368 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly

Laboratory Procedures

Dovitinib is supplied as a crystalline solid. A stock solution may be made by dissolving the dovitinib in the solvent of choice. Dovitinib is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of dovitinib in these solvents is approximately 5 mg/ml.

Dovitinib is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

Dovitinib is a receptor tyrosine kinase inhibitor that targets vascular endothelial growth factor-2, basic fibroblast growth factor-1, and platelet-derived growth factor β receptors (IC_{50} = 65, 11, and 5 nM, respectively).\(^1\) By impairing these kinase signals, 1 \(\mu\)M dovitinib has been shown to prevent the growth and motility of pancreatic cancer cell lines (HPAF-II, BxPC-3, MiaPaCa2, and L3.6pl).\(^2\) At 0.04 \(\mu\)M, dovitinib can inhibit endothelial cell proliferation and motility.\(^3\) These antiangiogenic effects have been proposed to be the mechanism by which dovitinib inhibits hepatocellular carcinoma growth and metastasis.\(^3\) Dovitinib has been evaluated in clinical trials for the treatment of advanced solid tumors.\(^4,5\)

References