LY2584702 (tosylate)
Item No. 15320

CAS Registry No.: 1082949-68-5
Formal Name: 4-[4-[4-fluoro-3-(trifluoromethyl)phenyl]-1-methyl-1H-imidazol-2-yl]-1-piperidinyl]-1H-pyrazolo[3,4-d]pyrimidine, 4-methylbenzenesulfonate
Synonym: LYS6K2
MF: C_{21}H_{19}F_{4}N_{7} • C_{7}H_{8}O_{3}S
FW: 617.6
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: \(\lambda_{\text{max}}\) 268 nm

Laboratory Procedures

For long term storage, we suggest that LY2584702 (tosylate) be stored as supplied at -20°C. It should be stable for at least two years.

LY2584702 (tosylate) is supplied as a crystalline solid. A stock solution may be made by dissolving the LY2584702 (tosylate) in the solvent of choice. LY2584702 (tosylate) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of LY2584702 (tosylate) in these solvents is approximately 0.5, 20, and 10 mg/ml, respectively.

LY2584702 (tosylate) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, LY2584702 (tosylate) should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. LY2584702 (tosylate) has a solubility of approximately 0.3 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

p70 Ribosomal S6 kinase (p70S6K) is a serine/threonine kinase that is activated by insulin and growth factors through PI3K and mTORC1 signaling pathways. LY2584702 is a selective, cell-permeable p70S6K inhibitor (IC_{50} = 4 nM). It blocks phosphorylation of p70S6K in primary rat hepatocytes without affecting the phosphorylation of other signaling kinases, including GSK-3β and ERK1/2.\(^1\) LY2584702 inhibits phosphorylation of p70S6K in HCT116 colon cancer cells (IC_{50} = 0.1-0.24 \mu M in vitro) and demonstrates significant antitumor efficacy in both U87MG glioblastoma and HCT116 colon carcinoma xenograft models.\(^2\) It also reverses the effects of mTORC1 hyperactivation on triglyceride metabolism in human hepatoma cells.\(^3\) LY2584702, alone or in combination with the mTOR inhibitor everolimus (Item No. 11597), has been evaluated in clinical trials against solid tumors.\(^2,4\)

References