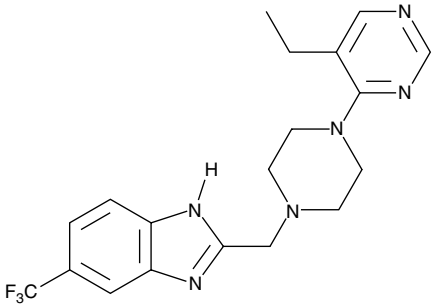
Product Information

PF-04708671

Item No. 15018

Sold for research purposes under agreement from Pfizer Inc.

CAS Registry No.: 1255517-76-0
Formal Name: 2-[[4-(5-ethyl-4-pyrimidinyl)-1-piperazinyl]methyl]-6-(trifluoromethyl)-1H-benzimidazole
MF: $C_{19}H_{21}F_3N_6$
FW: 390.4
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 256, 282 nm



Laboratory Procedures

For long term storage, we suggest that PF-04708671 be stored as supplied at -20°C. It should be stable for at least two years.

PF-04708671 is supplied as a crystalline solid. A stock solution may be made by dissolving the PF-04708671 in the solvent of choice. PF-04708671 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of PF-04708671 in these solvents is approximately 2, 3, and 10 mg/ml, respectively.

PF-04708671 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, PF-04708671 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. PF-04708671 has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

P70 ribosomal S6 kinase (S6K1) is a serine/threonine kinase which is activated by insulin and growth factors through PI3K and mTORC1 signaling pathways. PF-04708671 is a specific, cell-permeable inhibitor of S6K1 (IC_{50} = 160 nM).[1] It does not inhibit S6K2, MSK, or RSK, or many other unrelated kinases, under conditions in which it inhibits S6K1 activity.[1] It is useful in evaluating the role of S6K1 and, indirectly, mTORC1, in cell signaling.[2,3]

References

1. Pearce, L.R., Alton, G.R., Richter, D.T., *et al.* Characterization of PF-4708671, a novel and highly specific inhibitor of p70 ribosomal S6 kinase (S6K1). *Biochem. J.* **431**, 245-255 (2010).
2. Rajan, M.R., Fagerholm, S., Jönsson, C., *et al.* Phosphorylation of IRS1 at serine 307 in response to insulin in human adipocytes is not likely to be catalyzed by p70 ribosomal S6 kinase. *PLoS One* **8(4)**, (2013).
3. McNamara, C.R., Ahuja, R., Osafo-Addo, A.D., *et al.* Akt regulates TNFα synthesis downstream of RIP1 kinase activation during necroptosis. *PLoS One* **8(3)**, (2013).

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