

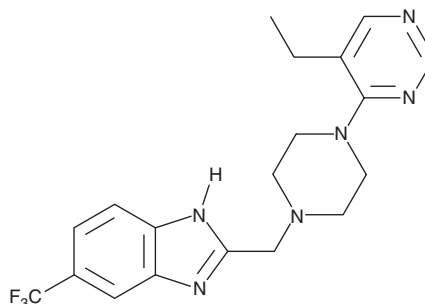
# PRODUCT INFORMATION



**PF-04708671**

Item No. 15018

**CAS Registry No.:** 1255517-76-0  
**Formal Name:** 2-[[4-(5-ethyl-4-pyrimidinyl)-1-piperazinyl]methyl]-6-(trifluoromethyl)-1H-benzimidazole  
**MF:** C<sub>19</sub>H<sub>21</sub>F<sub>3</sub>N<sub>6</sub>  
**FW:** 390.4  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 256, 282 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

## Laboratory Procedures

PF-04708671 is supplied as a crystalline solid. A stock solution may be made by dissolving the PF-04708671 in the solvent of choice, which should be purged with an inert gas. PF-04708671 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). 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.

## Description

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<sub>50</sub> = 160 nM).<sup>1</sup> It does not inhibit S6K2, MSK, or RSK, or many other unrelated kinases, under conditions in which it inhibits S6K1 activity.<sup>1</sup> It is useful in evaluating the role of S6K1 and, indirectly, mTORC1, in cell signaling.<sup>2,3</sup>

## 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**(2), 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).

### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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