# PRODUCT INFORMATION

## FLT3 Inhibitor III

*Item No. 21193*

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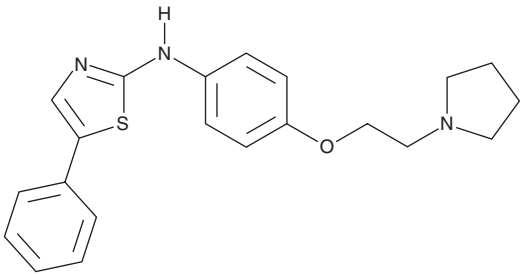
| **CAS Registry No.:** | 852045-46-6 |
| **Formal Name:** | 5-phenyl-N-[4-[2-(1-pyrrolidinyl) ethoxy]phenyl]-2-thiazolamine |
| **Synonym:** | Fms-like Tyrosine Kinase Inhibitor III |
| **MF:** | $C_{21}H_{23}N_3OS$ |
| **FW:** | 365.5 |
| **Purity:** | ≥98% |
| **UV/Vis.:** | $\lambda_{max}$: 335 nm |
| **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

FLT3 Inhibitor III is supplied as a crystalline solid. A stock solution may be made by dissolving the FLT3 inhibitor III in the solvent of choice. FLT3 Inhibitor III is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of FLT3 inhibitor III in ethanol is approximately 20 mg/ml and approximately 30 mg/ml in DMSO and DMF.

FLT3 Inhibitor III is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, FLT3 inhibitor III should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. FLT3 Inhibitor III has a solubility of approximately 0.25 mg/ml in a 1:4 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

FLT3 Inhibitor III is a potent inhibitor of Fms-like tyrosine kinase 3 (FLT3; $IC_{50}$ = 50 nM).[1] It shows high selectivity for FLT3 over a panel of 300 other kinases.[1,2] FLT3 Inhibitor III blocks FLT-dependent cell proliferation in a dose-dependent manner.[1] FLT3 Inhibitor III has been used to study signaling through FLT3 and FLT3 with internal tandem duplications (FLT3-ITD) in cells.[3-5]

### References


1. Furet, P., Bold, G., Meyer, T., *et al.* Aromatic interactions with phenylalanine 691 and cysteine 828: A concept for FMS-like tyrosine kinase-3 inhibition. Application to the discovery of a new class of potential antileukemia agents. *J. Med. Chem.* **49(15)**, 4451-4454 (2006).
2. Anastassiadis, T., Deacon, S.W., Devarajan, K., *et al.* Comprehensive assay of kinase catalytic activity reveals features of kinase inhibitor selectivity. *Nat. Biotechnol.* **29(11)**, 1039-1045 (2011).
3. Bertoli, S., Boutzen, H., David, L.E., *et al.* CDC25A governs proliferation and differentiation of FLT3-ITD acute myeloid leukemia. *Oncotarget* **6(35)**, 38061-38078 (2015).
4. Jiang, J., and Griffin, J.D. Wnt/β-catenin pathway modulates the sensitivity of the mutant FLT3 receptor kinase inhibitors in a GSK-3β dependent manner. *Genes Cancer* **1(2)**, 164-176 (2010).
5. Kang, Y., Tiziani, S., Park, G., *et al.* Cellular protection using Flt3 and PI3Kα inhibitors demonstrates multiple mechanisms of oxidative glutamate toxicity. *Nat. Commun.* **5**, 3672 (2014).





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