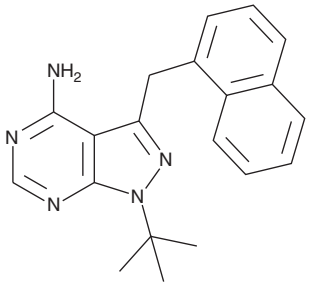
PRODUCT INFORMATION

1-NM-PP1

Item No. 13330

CAS Registry No.: 221244-14-0
Formal Name: 1-(1,1-dimethylethyl)-3-(1-naphthalenylmethyl)-1H-pyrazolo[3,4-d]pyrimidin-4-amine
Synonym: PP1 Analog II
MF: $C_{20}H_{21}N_5$
FW: 331.4
Purity: ≥95%
UV/Vis.: λ_{max}: 224, 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

1-NM-PP1 is supplied as a crystalline solid. A stock solution may be made by dissolving the 1-NM-PP1 in the solvent of choice, which should be purged with an inert gas. 1-NM-PP1 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 1-NM-PP1 in these solvents is approximately 2, 20, and 30 mg/ml, respectively.

1-NM-PP1 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 1-NM-PP1 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. 1-NM-PP1 has a solubility of approximately 0.15 mg/ml in a 1:5 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

1-NM-PP1 is a cell permeable inhibitor of kinases that have been mutated, by a single base substitution, to become 'analog sensitive' (as), as compared to the wild-type kinase. 1-NM-PP1 was first developed to optimally inhibit v-Src-as1, with an I338G substitution, preferentially over v-Src (IC_{50} = 4.2 nM *versus* 28 µM, respectively).[1] The homologous mutation in other kinases generated similar analog sensitivity (*e.g.*, IC_{50} = 3.2 nM for c-Fyn-as1 *versus* 1.0 µM for c-Fyn; 5.0 nM for Cdk2-as1 *versus* 29 µM for Cdk2; 8.0 nM for CAMKII-as1 *versus* 24 µM for CAMKII).[2] This approach has been used to elucidate functions of several kinases in both mammalian and yeast systems.[2-6]

References

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2. Bishop, A.C., Ubersax, J.A., Petsch, D.T., *et al. Nature* **407(6802)**, 395-401 (2000).
3. Weiss, E.L., Bishop, A.C., Shokat, K.M., *et al. Nat. Cell Biol.* **2(10)**, 677-685 (2000).
4. Ira, G., Pellicioli, A., Balijja, A., *et al. Nature* **431(7011)**, 1011-1017 (2004).
5. Larochelle, S., Merrick, K.A., Terret, M.E., *et al. Mol. Cell* **25(6)**, 839-850 (2007).
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