

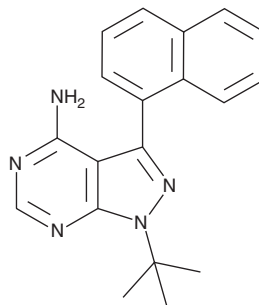
# PRODUCT INFORMATION



## 1-NA-PP1

Item No. 10954

**CAS Registry No.:** 221243-82-9  
**Formal Name:** 1-(1,1-dimethylethyl)-3-(1-naphthalenyl)-1H-pyrazolo[3,4-d]pyrimidin-4-amine  
**Synonyms:** 1-Naphthyl-PP1, PP1 Analog  
**MF:** C<sub>19</sub>H<sub>19</sub>N<sub>5</sub>  
**FW:** 317.4  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 214, 286 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-NA-PP1 is supplied as a crystalline solid. A stock solution may be made by dissolving the 1-NA-PP1 in the solvent of choice, which should be purged with an inert gas. 1-NA-PP1 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 1-NA-PP1 in these solvents is approximately 2, 1, and 30 mg/ml, respectively.

1-NA-PP1 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 1-NA-PP1 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. 1-NA-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-NA-PP1 is a reversible, cell-permeable inhibitor of Src-family tyrosine kinases that have been mutated, by a single base substitution, to become 'analog sensitive' (as), as compared to the wild-type kinase. 1-NA-PP1 was first developed to optimally inhibit v-Src-as1, with an I338G substitution, preferentially over v-Src (IC<sub>50</sub> = 1.5 nM versus 1.0 μM, respectively).<sup>1</sup> The homologous mutation in other kinases generated similar analog sensitivity (e.g., IC<sub>50</sub> = 1.5 nM for c-Fyn-as1 versus 0.6 μM for c-Fyn; 7.0 nM for c-Abl-as2 versus 0.6 μM for c-Abl; 15 nM for Cdk2-as1 versus 18 μM for Cdk2).<sup>2</sup> This approach has been used to elucidate functions of several kinases in both mammalian and yeast systems.<sup>2-4</sup>

### References

1. Bishop, A.C., Kung, C.y., Shah, K., *et al.* Generation of monospecific nanomolar tyrosine kinase inhibitors via a chemical genetic approach. *J. Am. Chem. Soc.* **121(4)**, 627-631 (1999).
2. Bishop, A.C., Ubersax, J.A., Petsch, D.T., *et al.* A chemical switch for inhibitor-sensitive alleles of any protein kinase. *Nature* **407(6802)**, 395-401 (2000).
3. Endo, S., Satoh, Y., Shah, K., *et al.* A single amino-acid change in ERK1/2 makes the enzyme susceptible to PP1 derivatives. *Biochem. Biophys. Res. Commun.* **341(1)**, 261-265 (2006).
4. Kenski, D.M., Zhang, C., von Zastrow, M., *et al.* Chemical genetic engineering of G protein-coupled receptor kinase 2. *J. Biol. Chem.* **280(41)**, 35051-35061 (2005).

#### 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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