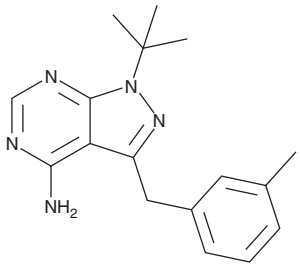
PRODUCT INFORMATION

3MB-PP1

Item No. 17860

CAS Registry No.:	956025-83-5
Formal Name:	1-(1,1-dimethylethyl)-3-[(3-methylphenyl) methyl]-1H-pyrazolo[3,4-d]pyrimidin-4-amine
MF:	$C_{17}H_{21}N_5$
FW:	295.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 260, 281 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

3MB-PP1 is supplied as a crystalline solid. A stock solution may be made by dissolving the 3MB-PP1 in the solvent of choice, which should be purged with an inert gas. 3MB-PP1 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 3MB-PP1 in these solvents is approximately 1, 20, and 30 mg/ml, respectively.

3MB-PP1 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 3MB-PP1 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. 3MB-PP1 has a solubility of approximately 0.1 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

In several model organisms, the generation of conditional analog-sensitive kinase alleles has been developed as a chemical genetic strategy wherein a mutational enlargement of the ATP-binding site enables a protein kinase to interact with bulky ATP analogs.[1,2] Thus, a generic bulky ATP analog can competitively inhibit the activity of the mutant kinase, without interfering with the function of wild-type kinases whose ATP-binding pockets remain too small to accommodate the bulky analog. 3MB-PP1 is a bulky purine analog that acts as a selective, ATP-competitive, analog-sensitive polo-like kinase 1 (Plk1) allele inhibitor.[3] At 10 µM, it can block mitotic progression in cells expressing analog-sensitive Plk1 alleles and has been used to selectively sensitize Plk1 to small-molecule inhibitors.[2,3]

References

1. Cipak, L., Zhang, C., Kovacikova, I., *et al.* Generation of a set of conditional analog-sensitive alleles of essential protein kinases in the fission yeast *Schizosaccharomyces pombe*. *Cell Cycle* **10(20)**, 3527-3532 (2011).
2. Tay, Y.-D., Patel, A., Kaemena, D.F., *et al.* Mutation of a conserved residue enhances the sensitivity of analogue-sensitised kinases to generate a novel approach to the study of mitosis in fission yeast. *J. Cell Sci.* **126(Pt 21)**, 5052-5061 (2013).
3. Burkard, M.E., Santamaria, A., and Jallepalli, P.V. Enabling and disabling polo-like kinase 1 inhibition through chemical genetics. *ACS Chem. Biol.* **7(6)**, 978-981 (2012).

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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