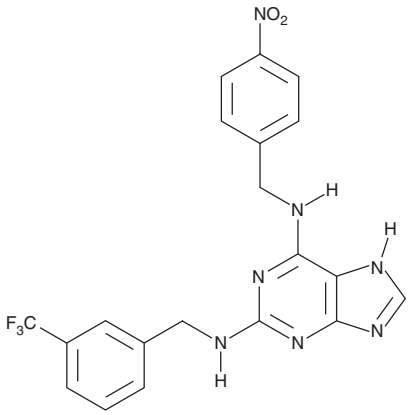
PRODUCT INFORMATION

TNP

Item No. 21189



CAS Registry No.:	519178-28-0
Formal Name:	N^6-[(4-nitrophenyl)methyl]-N^2-[[3-(trifluoromethyl) phenyl]methyl]-9H-purine-2,6-diamine
Synonyms:	IP_3K Inhibitor, IP_6K Inhibitor
MF:	$C_{20}H_{16}F_3N_7O_2$
FW:	443.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 227, 260, 289 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

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

TNP is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, TNP should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. TNP has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

TNP is a cell-permeable inhibitor of inositol-1,4,5-trisphosphate 6-kinase 1 (IP_6K1; IC_{50} = 0.55 µM; K_i = 0.24 µM) and IP_3K (IC_{50} = 10.2 µM; K_i = 4.3 µM) that binds to the ATP-binding sites of both enzymes.[1,2] TNP reduces IP_7 and IP_8 levels (IC_{50}s = ~3 and 1 µM, respectively) and inhibits insulin release in MIN6 cells.[1] It increases intracellular calcium levels in a concentration-dependent manner in HL-60 cells, potentially due to a 2- to 3-fold accumulation of IP_3, and induces degranulation in mast cells.[3]

References

1. Padmanabhan, U., Dollins, D.E., Fridy, P.C., *et al.* Characterization of a selective inhibitor of inositol hexakisphosphate kinases: Use in defining biological roles and metabolic relationships of inositol pyrophosphates. *J. Biol. Chem.* **284(16)**, 10571-10582 (2009).
2. Chang, Y.-T., Choi, G., Bae, Y.-S., *et al.* Purine-based inhibitors of inositol-1,4,5-trisphosphate-3-kinase. *Chembiochem* **3(9)**, 897-901 (2002).
3. Stokes, A.J., Shimoda, L.M., Lee, J.W., *et al.* Fcε RI control of Ras via inositol (1,4,5) trisphosphate 3-kinase and inositol tetrakisphosphate. *Cell Signal.* **18(5)**, 640-651 (2006).

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