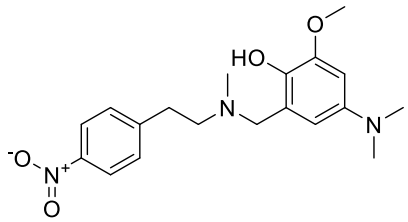
Product data sheet

MedKoo Cat#: 555387 Name: BN-82002 CAS#: 396073-89-5 Chemical Formula: $C_{19}H_{25}N_3O_4$ Exact Mass: 359.1845 Molecular Weight: 359.426	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:

BN-82002, also known as CDC25 Phosphatase Inhibitor I, is a cell-permeable ortho-hydroxybenzylamino compound that displays anti-tumor properties. BN-82002 acts as a potent, selective, and irreversible inhibitor of CDC25 phosphatase family (IC50 = 2.4, 3.9, 6.3, 5.4, and 4.6 μM for 25A, 25B2, 25B3, 25C, and 25C-cat, respectively). BN82002 inhibits the phosphatase activity of recombinant human CDC25A, B, and C in vitro. It impairs the proliferation of tumoral cell lines and increases cyclin-dependent kinase 1 inhibitory tyrosine phosphorylation. In synchronized HeLa cells, BN82002 delays cell cycle progression at G1-S, in S phase and at the G2-M transition.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	150.0	417.33

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.78 mL	13.91 mL	27.82 mL
5 mM	0.56 mL	2.78 mL	5.56 mL
10 mM	0.28 mL	1.39 mL	2.78 mL
50 mM	0.06 mL	0.28 mL	0.56 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Kim HG, Yang WS, Hong YH, Kweon DH, Lee J, Kim S, Cho JY. Anti-inflammatory functions of the CDC25 phosphatase inhibitor BN82002 via targeting AKT2. Biochem Pharmacol. 2019 Jun;164:216-227. doi: 10.1016/j.bcp.2019.04.007. Epub 2019 Apr 10. PMID: 30980807.
2. Brezak MC, Quaranta M, Mondésert O, Galcera MO, Lavergne O, Alby F, Cazales M, Baldin V, Thurieau C, Harnett J, Lanco C, Kasprzyk PG, Prevost GP, Ducommun B. A novel synthetic inhibitor of CDC25 phosphatases: BN82002. Cancer Res. 2004 May 1;64(9):3320-5. doi: 10.1158/0008-5472.can-03-3984. PMID: 15126376.

In vivo study

1. Brezak MC, Quaranta M, Mondésert O, Galcera MO, Lavergne O, Alby F, Cazales M, Baldin V, Thurieau C, Harnett J, Lanco C, Kasprzyk PG, Prevost GP, Ducommun B. A novel synthetic inhibitor of CDC25 phosphatases: BN82002. Cancer Res. 2004 May 1;64(9):3320-5. doi: 10.1158/0008-5472.can-03-3984. PMID: 15126376.

7. Bioactivity

Product data sheet

Biological target:

BN82002 is a potent, selective and irreversible inhibitor of CDC25 phosphatase family.

In vitro activity

BN82002 dose-dependently down-regulated mRNA levels of nitric oxide synthase, tumor necrosis factor-α, and cyclooxygenase-2. The nuclear translocation of nuclear factor (NF)-κB (p65 and p50) was also blocked by BN82002 in RAW265.7 cells stimulated by LPS.

Reference: Biochem Pharmacol. 2019 Jun;164:216-227. https://pubmed.ncbi.nlm.nih.gov/30980807/

In vivo activity

On the basis of the in vitro results, the activity of BN82002 was evaluated in athymic mice xenografted with the human pancreatic cell MIA PaCa-2. BN82002 stabilized tumor growth during the once daily × 10 treatment and induced a delay in the once weekly × 3 schedule.

Reference: Cancer Res. 2004 May 1;64(9):3320-5. https://pubmed.ncbi.nlm.nih.gov/15126376/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.