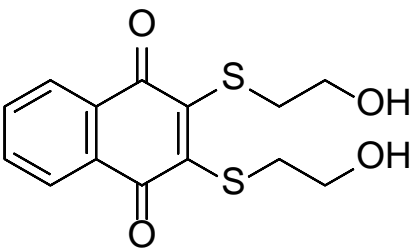


# Product data sheet



MedKoo Cat#: 551008 Name: NSC-95397 CAS: 93718-83-3 Chemical Formula: C <sub>14</sub> H <sub>14</sub> O <sub>4</sub> S <sub>2</sub> Exact Mass: 310.0334 Molecular Weight: 310.382	
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:

NSC-95397 is a novel CDC25B inhibitor, inhibiting influenza A virus replication in dose-dependent fashion. NSC95397 prevents the CtBP1-Protein Partner Interaction and CtBP1-Mediated Transcriptional Repression. NSC-95397 triggers apoptosis of tumor cells and is thus considered for the treatment of malignancy.

## 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
DMF	30.0	96.66
DMSO	51.88	167.15
DMSO:PBS (pH 7.2) (1:5)	0.16	0.52
Ethanol	1.29	4.17

## 4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.22 mL	16.11 mL	32.22 mL
5 mM	0.64 mL	3.22 mL	6.44 mL
10 mM	0.32 mL	1.61 mL	3.22 mL
50 mM	0.06 mL	0.32 mL	0.64 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

- Dubey NK, Peng BY, Lin CM, Wang PD, Wang JR, Chan CH, Wei HJ, Deng WP. NSC 95397 Suppresses Proliferation and Induces Apoptosis in Colon Cancer Cells through MKP-1 and the ERK1/2 Pathway. *Int J Mol Sci.* 2018 May 31;19(6):1625. doi: 10.3390/ijms19061625. PMID: 29857489; PMCID: PMC6032145.
- Lazo JS, Nemoto K, Pestell KE, Cooley K, Southwick EC, Mitchell DA, Furey W, Gussio R, Zaharevitz DW, Joo B, Wipf P. Identification of a potent and selective pharmacophore for Cdc25 dual specificity phosphatase inhibitors. *Mol Pharmacol.* 2002 Apr;61(4):720-8. doi: 10.1124/mol.61.4.720. PMID: 11901209.

### In vivo study

- Perwitasari O, Torrecilhas AC, Yan X, Johnson S, White C, Tompkins SM, Tripp RA. Targeting cell division cycle 25 homolog B to regulate influenza virus replication. *J Virol.* 2013 Dec;87(24):13775-84. doi: 10.1128/JVI.01509-13. Epub 2013 Oct 9. PMID: 24109234; PMCID: PMC3838213.

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## 7. Bioactivity

### Biological target:

NSC 95397 is a potent, selective Cdc25 dual specificity phosphatase inhibitor.

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### In vitro activity

Most notable was NSC 95397 (2,3-bis-[2-hydroxyethylsulfanyl]-[1,4]naphthoquinone), which displayed mixed inhibition kinetics with in vitro  $K(i)$  values for Cdc25A, -B, and -C of 32, 96, and 40 nM, respectively. NSC 95397 was more potent than any inhibitor of dual specificity phosphatases described previously and 125- to 180-fold more selective for Cdc25A than VH1-related dual-specificity phosphatase or protein tyrosine phosphatase 1b, respectively. NSC 95397 showed significant growth inhibition against human and murine carcinoma cells and blocked G(2)/M phase transition.

Reference: Mol Pharmacol. 2002 Apr;61(4):720-8. <https://pubmed.ncbi.nlm.nih.gov/11901209/>

### In vivo activity

Mice treated with NSC95397 pre- or postinfection were fully protected against lethal A/WSN/33 infection ( $P < 0.001$ ) and displayed less-severe weight loss than DMSO-treated mice ( $P < 0.001$  or  $P < 0.5$ ). At 72 hpi, mice treated prophylactically with NSC95397 at 2.5 mg/kg (24 h preinfection;  $P < 0.01$ ) and at 5 mg/kg (two administrations of 2.5 mg/kg each at 24 and 12 h preinfection;  $P < 0.001$ ) displayed a significant reduction of lung virus copy number. Additionally, 5 mg/kg NSC95397 administered therapeutically (two administrations of 2.5 mg/kg dose at 12 and 24 hpi) also significantly reduced lung virus copy number ( $P < 0.001$ ).

Reference: J Virol. 2013 Dec;87(24):13775-84. <https://pubmed.ncbi.nlm.nih.gov/24109234/>

*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.*