Product data sheet



MedKoo Cat#: 462541				
Name: NSC 319726				
CAS: 71555-25-4				
Chemical Formula: $C_{11}H_{14}N_4S$				
Exact Mass: 234.0939				
Molecular Weight: 234.321				
Product supplied as:	Powder			
Purity (by HPLC):	$\geq 98\%$			
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 319726 is a reactivator of p53R175, a p53 conformational mutant that cannot bind DNA.

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	16.0	68.28
DMF:PBS (pH 7.2)	0.5	2.13
(1:1)		
DMSO	21.92	93.55

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	4.27 mL	21.34 mL	42.68 mL
5 mM	0.85 mL	4.27 mL	8.54 mL
10 mM	0.43 mL	2.13 mL	4.27 mL
50 mM	0.09 mL	0.43 mL	0.85 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. Sun N, Li D, Zhang Y, Killeen K, Groutas W, Calderone R. Repurposing an inhibitor of ribosomal biogenesis with broad antifungal activity. Sci Rep. 2017 Dec 5;7(1):17014. doi: 10.1038/s41598-017-17147-x. PMID: 29209049; PMCID: PMC5717060.

2. Yu X, Blanden AR, Narayanan S, Jayakumar L, Lubin D, Augeri D, Kimball SD, Loh SN, Carpizo DR. Small molecule restoration of wildtype structure and function of mutant p53 using a novel zinc-metallochaperone based mechanism. Oncotarget. 2014 Oct 15;5(19):8879-92. doi: 10.18632/oncotarget.2432. PMID: 25294809; PMCID: PMC4253404.

In vivo study

1. Li J, Coste AT, Bachmann D, Sanglard D, Lamoth F. Assessment of the In Vitro and In Vivo Antifungal Activity of NSC319726 against Candida auris. Microbiol Spectr. 2021 Dec 22;9(3):e0139521. doi: 10.1128/Spectrum.01395-21. Epub 2021 Nov 3. PMID: 34730380; PMCID: PMC8567239.

2. Yu X, Vazquez A, Levine AJ, Carpizo DR. Allele-specific p53 mutant reactivation. Cancer Cell. 2012 May 15;21(5):614-625. doi: 10.1016/j.ccr.2012.03.042. PMID: 22624712; PMCID: PMC3366694.

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7. Bioactivity

Biological target:

NSC319726 (ZMC1) is a mutant p53R175 reactivator; inhibits growth of fibroblasts expressing the p53R175 mutation ($IC_{50} = 8 nM$).

In vitro activity

This study investigated the mechanism by which ZMC1 reactivates p53-R175H and provide evidence that ZMC1: 1) restores WT structure by functioning as a zinc-metallochaperone, providing an optimal concentration of zinc to facilitate proper folding; and 2) increases cellular reactive oxygen species that transactivate the newly conformed p53-R175H (via post-translational modifications), inducing an apoptotic program.

Reference: Oncotarget. 2014 Oct 15;5(19):8879-92. https://pubmed.ncbi.nlm.nih.gov/25294809/

In vivo activity

The safety and efficacy of NSC319726 were tested in a Galleria mellonella model of C. auris invasive candidiasis. Escalating single doses of NSC319726 up to 24 mg/kg were well tolerated by the uninfected larvae (100% survival until 7 days following injection). Doses of 6 and 12 mg/kg were selected for the G. mellonella model of C. auris infection. NSC319726 was effective in rescuing larvae infected with C. auris I.3 and IV.1 strains, with significantly improved survival rates, compared to the untreated group (Fig. 2).

Reference: Microbiol Spectr. 2021 Dec 22;9(3):e0139521. https://pubmed.ncbi.nlm.nih.gov/34730380/

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.