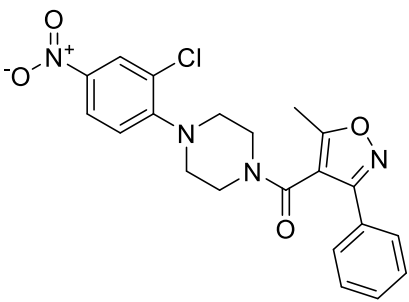


# Product data sheet



MedKoo Cat#: 326797 Name: Nucleozin CAS#: 341001-38-5 Chemical Formula: C <sub>21</sub> H <sub>19</sub> ClN <sub>4</sub> O <sub>4</sub> Exact Mass: 426.1095 Molecular Weight: 426.857	
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:

Nucleozin is an antiviral agent. Nucleozin targets influenza A nucleoprotein (NP), a multifunctional, RNA-binding protein necessary for virus replication. Nucleozin is effective in fighting H1N1, H3N2, and H5N1 flu virus strains by inducing the formation of NP aggregates and antagonizing its nuclear accumulation, leading to cessation of viral replication.

## 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	22.0	51.63

## 4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.34 mL	11.71 mL	23.43 mL
5 mM	0.47 mL	2.34 mL	4.69 mL
10 mM	0.23 mL	1.17 mL	2.34 mL
50 mM	0.05 mL	0.23 mL	0.47 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. Amorim MJ, Kao RY, Digard P. Nucleozin targets cytoplasmic trafficking of viral ribonucleoprotein-Rab11 complexes in influenza A virus infection. *J Virol.* 2013 Apr;87(8):4694-703. doi: 10.1128/JVI.03123-12. Epub 2013 Feb 13. PMID: 23408618; PMCID: PMC3624347.

In vivo study

TBD

## 7. Bioactivity

Biological target:

Nucleozin, a potent inhibitor of influenza A virus infection, induces the formation of nucleoprotein (NP) aggregates and antagonizes its nuclear accumulation, leading to cessation of viral replication.

# Product data sheet



## In vitro activity

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To test if nucleozin blocked onward transport from the RE, images of living virus-infected cells containing GFP-NP-tagged RNPs, as well as RFP-Rab11 were acquired. A549 cells were transfected with GFP-NP and RFP-Rab11, infected with PR8 virus or mock infected 12 h later, and imaged at 8 hpi. The effect of adding nucleozin was then tested. In mock-infected cells, drug addition had little apparent effect, in terms of both the overall localization patterns of GFP-NP and RFP-Rab11 (Fig. 4A) and their movement in time-lapse movies (see min 4.5 to 29 of Movie S1). However, when the drug was added to infected cells, the result was a dramatic loss of the small, highly mobile GFP-NP- and RFP-Rab11-positive bodies, which were replaced by increasingly large cytoplasmic aggregates that still contained both proteins but that in many cases collapsed back onto the perinuclear region (Fig. 4C; see Movie S3). High-magnification movies of vRNP-decorated vesicles moving in the cytoplasm of infected cells showed that they were highly mobile and that while there were apparently continual interactions among them, these were transient (see Fig. S3A [white arrowheads] and Movie S4 in the supplemental material). However, in the presence of nucleozin, interacting vesicular structures tended to remain attached over time, thus forming large agglomerations. (see Fig. S3B [white arrowheads] and Movie S5). Thus, nucleozin exerts a general block to cytoplasmic transport of RNP-Rab11 complexes by sticking vRNPs and their associated transport machinery together, most likely via NP-NP interactions.

Reference: J Virol. 2013 Apr; 87(8): 4694–4703. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3624347/>

## In vivo activity

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TBD

*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.*