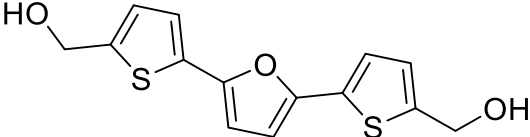


# Product data sheet



MedKoo Cat#: 407174 Name: RITA (NSC-652287) CAS: 213261-59-7 Chemical Formula: C <sub>14</sub> H <sub>12</sub> O <sub>3</sub> S <sub>2</sub> Exact Mass: 292.0228 Molecular Weight: 292.367	
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:

RITA, also known as NSC 652287, is an inducer of both DNA-protein and DNA-DNA cross-links with no detectable DNA single-strand breaks. RITA is also an inhibitor of MDM2-p53 interaction by targeting p53 and induces apoptosis in tumor cells.

## 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	102.61
DMF:PBS (pH 7.2) (1:1)	0.5	1.71
DMSO	51.81	177.20
Ethanol	5.44	18.60

## 4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.42 mL	17.10 mL	34.20 mL
5 mM	0.68 mL	3.42 mL	6.84 mL
10 mM	0.34 mL	1.71 mL	3.42 mL
50 mM	0.07 mL	0.34 mL	0.68 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. Wildner JM, Friemel A, Jennewein L, Roth S, Ritter A, Schüttler C, Chen Q, Louwen F, Yuan J, Kreis NN. RITA Is Expressed in Trophoblastic Cells and Is Involved in Differentiation Processes of the Placenta. *Cells*. 2019 Nov 21;8(12):1484. doi: 10.3390/cells8121484. PMID: 31766533; PMCID: PMC6953008.
2. Ristau J, van Hoef V, Peugeot S, Zhu J, Guan BJ, Liang S, Hatzoglou M, Topisirovic I, Selivanova G, Larsson O. RITA requires eIF2 $\alpha$ -dependent modulation of mRNA translation for its anti-cancer activity. *Cell Death Dis*. 2019 Nov 7;10(11):845. doi: 10.1038/s41419-019-2074-3. PMID: 31699971; PMCID: PMC6838152.

### In vivo study

1. Azatyany A, Gallo-Oller G, Diao Y, Selivanova G, Johnsen JI, Zaphiropoulos PG. RITA downregulates Hedgehog-GLI in medulloblastoma and rhabdomyosarcoma via JNK-dependent but p53-independent mechanism. *Cancer Lett*. 2019 Feb 1;442:341-350. doi: 10.1016/j.canlet.2018.11.005. Epub 2018 Nov 14. PMID: 30447254.

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2. Gottlieb A, Althoff K, Grunewald L, Thor T, Odersky A, Schulte M, Deubzer HE, Heukamp L, Eggert A, Schramm A, Schulte JH, Künkele A. RITA displays anti-tumor activity in medulloblastomas independent of TP53 status. *Oncotarget*. 2017 Apr 25;8(17):27882-27891. doi: 10.18632/oncotarget.15840. PMID: 28427187; PMCID: PMC5438615.

## 7. Bioactivity

### Biological target:

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RITA is an inhibitor of p53-HDM-2 interaction, binds to p53dN, with a  $K_d$  of 1.5 nM, and also induces DNA-DNA cross-links.

### In vitro activity

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RITA (RBP-J (recombination signal binding protein J)-interacting and tubulin-associated protein) has been identified as a negative modulator of the Notch pathway and as a microtubule-associated protein important for cell migration and invasion.

Reference: *Cells*. 2019 Nov 21;8(12):1484. <https://pubmed.ncbi.nlm.nih.gov/31766533/>

### In vivo activity

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In vivo administration of RITA or GANT61 suppressed rhabdomyosarcoma xenograft growth in nude mice; however, co-administration did not further enhance tumor suppression, even though cell proliferation was decreased. RITA was more potent than GANT61 in downregulating HH target gene expression; surprisingly, this suppressive effect was almost completely eliminated when the two drugs were administered together.

Reference: *Cancer Lett*. 2019 Feb 1;442:341-350. <https://pubmed.ncbi.nlm.nih.gov/30447254/>

*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.*