

Product data sheet



MedKoo Cat#: 525344 Name: RCM-1 CAS: 339163-65-4 Chemical Formula: C ₂₀ H ₁₂ N ₂ OS ₄ Exact Mass: 423.9832 Molecular Weight: 424.57	
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:

RCM-1 is a nontoxic FOXM1 inhibitor, inhibiting goblet cell metaplasia and excessive mucus production.

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	8.49	20

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.36 mL	11.78 mL	23.55 mL
2 mM	1.18 mL	5.89 mL	11.78 mL
10 mM	0.24 mL	1.18 mL	2.36 mL
50 mM	0.24 mL	0.59 mL	1.18 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

- Kamimura M, Sasaki A, Otani Y, Nakamura Y, Nakamura T, Kuramochi K, Imai T, Kubo N, Okamoto S. Methylthioacetic acid, a derivative of aroma compounds from Cucumis melo var. conomon dose-dependently triggers differentiation and apoptosis of RCM-1 human colorectal cancer cells. *J Toxicol Sci.* 2023;48(1):25-35. doi: 10.2131/jts.48.25. PMID: 36599425.
- Shukla S, Milewski D, Pradhan A, Rama N, Rice K, Le T, Flick MJ, Vaz S, Zhao X, Setchell KD, Logarinho E, Kalinichenko VV, Kalin TV. The FOXM1 Inhibitor RCM-1 Decreases Carcinogenesis and Nuclear β -Catenin. *Mol Cancer Ther.* 2019 Jul;18(7):1217-1229. doi: 10.1158/1535-7163.MCT-18-0709. Epub 2019 Apr 30. PMID: 31040162; PMCID: PMC7341442.

In vivo study

- Sun L, Ren X, Wang IC, Pradhan A, Zhang Y, Flood HM, Han B, Whitsett JA, Kalin TV, Kalinichenko VV. The FOXM1 inhibitor RCM-1 suppresses goblet cell metaplasia and prevents IL-13 and STAT6 signaling in allergen-exposed mice. *Sci Signal.* 2017 Apr 18;10(475):eaai8583. doi: 10.1126/scisignal.aai8583. PMID: 28420758.

7. Bioactivity

Biological target:

RCM 1 is a forkhead box M1 (FOXM1) transcription factor inhibitor (IC₅₀ = 0.72 μ M). Inhibits expression of FOXM1 target genes. Induces FOXM1 protein degradation in vitro. Reduces airway resistance, increases lung compliance and decreases proinflammatory cytokine production in allergen-exposed mice.

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In vitro activity

RCM-1 decreased protein levels and nuclear localization of β -catenin, and inhibited protein-protein interaction between β -catenin and FOXM1 in cultured tumor cells. RCM-1 could be a promising candidate for anticancer therapy.

Reference: Mol Cancer Ther. 2019 Jul;18(7):1217-1229. <https://pubmed.ncbi.nlm.nih.gov/31040162/>

In vivo activity

The results of this study suggest that RCM-1 is an inhibitor of goblet cell metaplasia and IL-13 signaling. These results provide a new therapeutic candidate to treat patients with asthma and other chronic airway diseases.

Reference: Sci Signal. 2017 Apr 18;10(475):eaai8583. <https://pubmed.ncbi.nlm.nih.gov/28420758/>

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.