

Product data sheet



MedKoo Cat#: 202701 Name: Resveratrol CAS#: 501-36-0 Chemical Formula: C ₁₄ H ₁₂ O ₃ Exact Mass: 228.07864 Molecular Weight: 228.24	
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:

Resveratrol (also known as SRT-501) is a phytoalexin derived from grapes and other food products with antioxidant and potential chemopreventive activities. Resveratrol induces phase II drug-metabolizing enzymes (anti-initiation activity); mediates anti-inflammatory effects and inhibits cyclooxygenase and hydroperoxidase functions (anti-promotion activity); and induces promyelocytic leukemia cell differentiation (anti-progression activity), thereby exhibiting activities in three major steps of carcinogenesis. This agent may inhibit TNF-induced activation of NF-kappaB in a dose- and time-dependent manner.

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	50.0	219.1
Ethanol	50.0	219.1

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	4.38 mL	21.91 mL	43.81 mL
5 mM	0.88 mL	4.38 mL	8.76 mL
10 mM	0.44 mL	2.19 mL	4.38 mL
50 mM	0.09 mL	0.44 mL	0.88 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

- Xu D, Li Y, Zhang B, Wang Y, Liu Y, Luo Y, Niu W, Dong M, Liu M, Dong H, Zhao P, Li Z. Resveratrol alleviate hypoxic pulmonary hypertension via anti-inflammation and anti-oxidant pathways in rats. *Int J Med Sci.* 2016 Nov 23;13(12):942-954. doi: 10.7150/ijms.16810. PMID: 27994500; PMCID: PMC5165688.
- Mohd A, Zainal N, Tan KK, AbuBakar S. Resveratrol affects Zika virus replication in vitro. *Sci Rep.* 2019 Oct 4;9(1):14336. doi: 10.1038/s41598-019-50674-3. PMID: 31586088; PMCID: PMC6778103.

In vivo study

- Xu D, Li Y, Zhang B, Wang Y, Liu Y, Luo Y, Niu W, Dong M, Liu M, Dong H, Zhao P, Li Z. Resveratrol alleviate hypoxic pulmonary hypertension via anti-inflammation and anti-oxidant pathways in rats. *Int J Med Sci.* 2016 Nov 23;13(12):942-954. doi: 10.7150/ijms.16810. PMID: 27994500; PMCID: PMC5165688.
- Feng H, Mou SQ, Li WJ, Zhang N, Zhou ZY, Ding W, Bian ZY, Liao HH. Resveratrol Inhibits Ischemia-Induced Myocardial Senescence Signals and NLRP3 Inflammasome Activation. *Oxid Med Cell Longev.* 2020 Aug 25;2020:2647807. doi: 10.1155/2020/2647807. PMID: 32908628; PMCID: PMC7468658.

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7. Bioactivity

Biological target:

Resveratrol (trans-Resveratrol; SRT501) is a natural polyphenolic phytoalexin that has a wide spectrum of targets including mTOR, JAK, β -amyloid, Adenyl cyclase (IC₅₀ 0.8 nM), IKK β (IC₅₀ 1 μ M), DNA polymerase α (IC₅₀ 3.3 μ M), and DNA polymerase δ (5 μ M).

In vitro activity

In order to investigate the antiviral effects of RES against ZIKV, virus replication inhibition was determined in cells treated with different concentrations of RES, while the mock-treated cells were used as control. Huh7 cells were mock-treated or treated with different concentrations of RES (20 μ M, 50 μ M, 80 μ M, and 100 μ M) prior and post ZIKV infection at an MOI of 1. After 48 h, the supernatants of the non- and RES-treated cell cultures were harvested. The supernatants were used to infect Vero cells for the focus-forming assay and the qRT-PCR assay. Treatment of cells with 20 μ M, 50 μ M, 80 μ M and 100 μ M of RES reduced the number of foci formed by 25%, 76%, 93% (1 log) and 97% (1 log), respectively (Fig. 2A,B). Correspondingly, ZIKV mRNA copy numbers were significantly reduced by the RES treatment (20 μ M; 25% virus reduction, 50 μ M; 92% [1 log] virus reduction, 80 μ M; 96% [1 log] virus reduction, 100 μ M; 98% [2 log] virus reduction) (Fig. 2C), suggesting the inhibitory effects of RES against ZIKV replication.

Sci Rep. 2019; 9: 14336. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6778103/>

In vivo activity

It was hypothesized that resveratrol exerts anti-proliferation, anti-oxidant, and anti-inflammation effects during the progression of HPH. To verify the hypothesis, long-term gavage administration of resveratrol was explored in chronic hypoxia exposed rats. After 28 days hypoxia exposure, the myocytes of right ventricle in hypoxia group was significantly enlarged versus the normoxic groups (Figure 1a, b; P<0.01). Resveratrol administration notably inhibited the hypertrophy of myocytes of right ventricle after chronic hypoxia (Figure 1a, b; P<0.01). There was no significant difference found in the two normoxic groups (Figure 1a, b). Accordingly, hypoxia exposure also markedly increased RVHI versus the normoxic groups (Figure 1c; P<0.01), and resveratrol treatment significantly decreased the elevation of RVHI (Figure 1c, P<0.01). Resveratrol administration significantly decreased both indices of pulmonary arterial structure remodeling (P<0.01, Figure 2b, c). Chronic hypoxia resulted in plentiful infiltration of neutrophils in rat lungs compared to the normoxic groups (P<0.01, Figure 3aC, b). However, resveratrol treatment significantly reduced the infiltration of neutrophils in rat lungs (P<0.01, Figure 3aD, b). Conclusively, our results showed that treatment with resveratrol prevented the development of pulmonary hypertension induced by chronic hypoxia.

Int J Med Sci. 2016; 13(12): 942–954. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5165688/>

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.