

Product data sheet



MedKoo Cat#: 574411 Name: SR1001 CAS: 1335106-03-0 Chemical Formula: C ₁₅ H ₁₃ F ₆ N ₃ O ₄ S ₂ Exact Mass: 477.0252 Molecular Weight: 477.39	
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:

SR1001 is a novel ROR Ligand that suppresses TH17 differentiation and autoimmunity.

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	20	41.89
DMSO	20	41.89
Ethanol	30	62.84

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.09 mL	10.47 mL	20.95 mL
5 mM	0.42 mL	2.09 mL	4.19 mL
10 mM	0.21 mL	1.05 mL	2.09 mL
50 mM	0.04 mL	0.21 mL	0.42 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

- Çoban N, Güleç Ç, Özsait Selçuk B, Erginel-Ünaltuna N. Role of simvastatin and ROR α activity in the macrophage apoptotic pathway. *Anatol J Cardiol.* 2017 May;17(5):362-366. doi: 10.14744/AnatolJCardiol.2016.7411. Epub 2017 Feb 1. PMID: 28613211; PMCID: PMC5469082.
- Xiao L, Zhang Z, Luo X, Yang H, Li F, Wang N. Retinoid acid receptor-related orphan receptor alpha (ROR α) regulates macrophage M2 polarization via activation of AMPK α . *Mol Immunol.* 2016 Dec;80:17-23. doi: 10.1016/j.molimm.2016.10.006. Epub 2016 Oct 24. PMID: 27788394.

In vivo study

- Liu P, Xiao Z, Lu X, Zhang X, Huang J, Li C. Fasudil and SR1001 synergistically protect against sepsis-associated pancreatic injury by inhibiting RhoA/ROCK pathway and Th17/IL-17 response. *Heliyon.* 2023 Sep 18;9(9):e20118. doi: 10.1016/j.heliyon.2023.e20118. PMID: 37809525; PMCID: PMC10559842.
- Solt LA, Kumar N, Nuhant P, Wang Y, Lauer JL, Liu J, Istrate MA, Kamenecka TM, Roush WR, Vidović D, Schürer SC, Xu J, Wagoner G, Drew PD, Griffin PR, Burris TP. Suppression of TH17 differentiation and autoimmunity by a synthetic ROR ligand. *Nature.* 2011 Apr 28;472(7344):491-4. doi: 10.1038/nature10075. Epub 2011 Apr 17. PMID: 21499262; PMCID: PMC3148894.

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7. Bioactivity

Biological target:

SR1001 is a selective ROR α and ROR γ t inverse agonist with Kis 172 and 111 nM, respectively.

In vitro activity

This study suggests that simvastatin-mediated macrophage apoptosis might be modulated by SR1001 administration. Compared with non-treated controls, simvastatin significantly decreased THP-1 macrophage cell viability (p=0.04) and cell count (p=0.03). However, this negative effect of simvastatin seemed to be partly prevented by SR1001.

Reference: Anatol J Cardiol. 2017 May;17(5):362-366. <https://pubmed.ncbi.nlm.nih.gov/28613211/>

In vivo activity

SR1001 inhibited TH17 cell differentiation and function by binding to ROR α and ROR γ t, altering their transcriptional activity. SR1001 effectively suppressed TH17 cell development and cytokine expression in mice and human cells, suggesting potential for treating autoimmune diseases.

Reference: Nature. 2011 Apr 28;472(7344):491-4. <https://pubmed.ncbi.nlm.nih.gov/21499262/>

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.