

Product data sheet



MedKoo Cat#: 407471 Name: SAR-20347 CAS#: 1450881-55-6 Chemical Formula: C ₂₁ H ₁₈ ClFN ₄ O ₄ Exact Mass: 444.1001 Molecular Weight: 444.85		
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:

SAR-20347 is a potent dual inhibitor of JAK1 and tyrosine kinase 2 (TYK2). SAR-20347 dose dependently (1 nM-10 µM) inhibited JAK1- and/or TYK2-dependent signaling from the IL-12/IL-23, IL-22, and IFN-α receptors. In vivo, TYK2 mutant mice or treatment of wild-type mice with SAR-20347 significantly reduced IL-12-induced IFN-γ production and IL-22-dependent serum amyloid A to similar extents.

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	94.50	212.43

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.25 mL	11.24 mL	22.48 mL
5 mM	0.45 mL	2.25 mL	4.50 mL
10 mM	0.22 mL	1.12 mL	2.25 mL
50 mM	0.04 mL	0.22 mL	0.45 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. Works MG, Yin F, Yin CC, Yiu Y, Shew K, Tran TT, Dunlap N, Lam J, Mitchell T, Reader J, Stein PL, D'Andrea A. Inhibition of TYK2 and JAK1 ameliorates imiquimod-induced psoriasis-like dermatitis by inhibiting IL-22 and the IL-23/IL-17 axis. J Immunol. 2014 Oct 1;193(7):3278-87. doi: 10.4049/jimmunol.1400205. Epub 2014 Aug 25. PMID: 25156366; PMCID: PMC4170002.

In vivo study

1. Works MG, Yin F, Yin CC, Yiu Y, Shew K, Tran TT, Dunlap N, Lam J, Mitchell T, Reader J, Stein PL, D'Andrea A. Inhibition of TYK2 and JAK1 ameliorates imiquimod-induced psoriasis-like dermatitis by inhibiting IL-22 and the IL-23/IL-17 axis. J Immunol. 2014 Oct 1;193(7):3278-87. doi: 10.4049/jimmunol.1400205. Epub 2014 Aug 25. PMID: 25156366; PMCID: PMC4170002.

7. Bioactivity

Biological target: SAR-20347 is an inhibitor of TYK2, JAK1, JAK2 and JAK3 with IC50s of 0.6, 23, 26 and 41 nM, respectively.

In vitro activity

Because SAR-20347 inhibits TYK2 and JAK1 signaling, whether SAR-20347 blocked the development of Th1, Th2, or Th17 cells was investigated in vitro. Th1 cells require IL-12 signaling for development, a TYK2-dependent process, and Th17 cells utilize IL-6, a

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JAK1-dependent process. Th2 cells, which require IL-4 for development, a JAK1/3-dependent process, were also assessed. The presence of 1 μ M SAR-20347 during Th17-skewing conditions reduced the percent of IL-17+ cells (Figure 2A/B). Moreover, there was a dramatic increase in Foxp3+ cells (t-test, $p = 0.002$), an observation that is consistent with inhibition of IL-6 signaling and causing the cells to be redirected to the Treg lineage (Figure 2A).

Reference: J Immunol. 2014 Oct 1;193(7):3278-87. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4170002/>

In vivo activity

Treatment of TYK2 mutant mice or wild-type mice with SAR-20347 significantly reduced IL-12-induced IFN- γ production and IL-22-dependent serum amyloid A to similar extents. These results indicate that in these models, SAR-20347 is probably acting through inhibition of TYK2. Strikingly, 60 mg/kg SAR-20347 inhibited the production of IFN- γ in the serum by 91% compared to vehicle-treated animals (Supplemental Figure S1C), demonstrating that SAR-20347 can inhibit TYK2 signaling in vivo.

Reference: J Immunol. 2014 Oct 1;193(7):3278-87. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4170002/>

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.