

Product data sheet



MedKoo Cat#: 591122 Name: Psicofuranine CAS: 1874-54-0 Chemical Formula: C ₁₁ H ₅ N ₅ O ₅ Exact Mass: 297.1073 Molecular Weight: 297.27	
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:

Psicofuranine is an antibiotic and antitumor compound. Psicofuranine specifically inhibits GMP synthase and interrupts parasite growth.

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	168.20

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.36 mL	16.82 mL	33.64 mL
5 mM	0.67 mL	3.36 mL	6.73 mL
10 mM	0.34 mL	1.68 mL	3.36 mL
50 mM	0.07 mL	0.34 mL	0.67 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

- McConkey GA. Plasmodium falciparum: isolation and characterisation of a gene encoding protozoan GMP synthase. Exp Parasitol. 2000 Jan;94(1):23-32. doi: 10.1006/expr.1999.4467. PMID: 10631077.
- Rohlman CE, Matthews RG. Role of purine biosynthetic intermediates in response to folate stress in Escherichia coli. J Bacteriol. 1990 Dec;172(12):7200-10. doi: 10.1128/jb.172.12.7200-7210.1990. PMID: 2254281; PMCID: PMC210845.

In vivo study

To be determined

7. Bioactivity

Biological target:

Psicofuranine acts as an inhibitor of xanthosine monophosphate (XMP) aminase (IC₅₀ = 67 μM), causing guanine deficiency in enteric bacteria.

In vitro activity

Psicofuranine disrupted Plasmodium falciparum growth by targeting GMP synthase, which plays a crucial role in guanylate nucleotide biosynthesis. Psicofuranine has potential as an inhibitor of purine salvage in malaria parasites.

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Reference: Exp Parasitol. 2000 Jan;94(1):23-32. <https://pubmed.ncbi.nlm.nih.gov/10631077/>

In vivo activity

To be determined

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.