

Product data sheet



MedKoo Cat#: 318577 Name: Proflavine Hemisulfate CAS#: 1811-28-5 Chemical Formula: C ₂₆ H ₂₄ N ₆ O ₄ S Molecular Weight: 516.57		
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:

Proflavine hemisulfate is an Acridine derivative, which is a slow-acting disinfectant with bacteriostatic action against many Gram-positive bacteria but less effective against Gram-negative organisms. Proflavine Hemisulfate has little antifungal activity.

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
To be determined	To be determined	To be determined

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.87 mL	19.36 mL	38.72 mL
5 mM	0.77 mL	3.87 mL	7.74 mL
10 mM	0.39 mL	1.94 mL	3.87 mL
50 mM	0.08 mL	0.39 mL	0.77 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

- Inanobe A, Itamochi H, Kurachi Y. Kir Channel Blockages by Proflavine Derivatives via Multiple Modes of Interaction. *Mol Pharmacol*. 2018 Jun;93(6):592-600. doi: 10.1124/mol.117.111377. Epub 2018 Apr 12. PMID: 29650538.
- Kawada H, Inanobe A, Kurachi Y. Isolation of proflavine as a blocker of G protein-gated inward rectifier potassium channels by a cell growth-based screening system. *Neuropharmacology*. 2016 Oct;109:18-28. doi: 10.1016/j.neuropharm.2016.05.016. Epub 2016 May 26. PMID: 27236080.

In vivo study

- Nam K, Park N, Lee S, Jeon S, Lee J, Hong SM, Hwang SW, Park SH, Yang DH, Ye BD, Byeon JS, Yang SK, Lee JH, Kim DH, Kim KH, Myung SJ. Feasibility of moxifloxacin and proflavine dual fluorescence imaging for detecting gastrointestinal neoplastic lesions: A prospective study. *Lasers Surg Med*. 2023 Apr;55(4):378-389. doi: 10.1002/lsm.23640. Epub 2023 Feb 17. PMID: 36802075.
- Chen J, Hu Y, Lu Q, Wang P, Zhan H. Determination of proflavine in rat whole blood without sample pretreatment by laser desorption postionization mass spectrometry. *Anal Bioanal Chem*. 2017 Apr;409(11):2813-2819. doi: 10.1007/s00216-017-0225-x. Epub 2017 Feb 10. PMID: 28188352.

7. Bioactivity

Biological target:

Product data sheet



Proflavine hemisulfate behaves as a pore blocker for Kir3.2. Proflavine hemisulfate is a potential lead compound for Kir3.2-associated neurological diseases.

In vitro activity

Proflavine is a potential pore blocker of Kir3.2, a channel associated with neurological phenotypes in Down syndrome. Proflavine was found to inhibit the growth of Kir3.2-transformed cells and Kir3.2 activity in a dose-dependent manner. Proflavine's blockage effect depended on the difference between membrane potential and extracellular K(+) concentration.

Reference: Neuropharmacology. 2016 Oct;109:18-28. <https://pubmed.ncbi.nlm.nih.gov/27236080/>

In vivo activity

Proflavine was used as part of a novel dual fluorescence imaging technique to detect neoplastic lesions in the human gastrointestinal tract. Patients with colonic and gastric neoplastic lesions underwent imaging after topical instillation of moxifloxacin and proflavine. The dual fluorescence imaging provided high-contrast and high-resolution visualization of cellular structures, allowing for the detection of irregular glandular structures and the loss of goblet cells in adenomas.

Reference: Lasers Surg Med. 2023 Apr;55(4):378-389. <https://pubmed.ncbi.nlm.nih.gov/36802075/>

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.