

## Proflavine Hemisulfate

### Chemical Properties

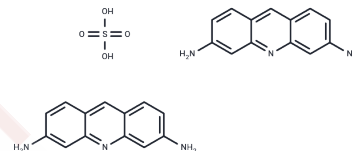
CAS No. : 1811-28-5

Formula: C<sub>13</sub>H<sub>12</sub>N<sub>3</sub>O<sub>2</sub>S<sub>0.5</sub>

Molecular Weight: 258.29

Storage: Keep away from direct sunlight  
Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



### Biological Description

Description	Proflavine Hemisulfate (3,6-Diaminoacridine hemisulfate) is the hemisulfate salt form of proflavine, an acridine-derived fluorescent contrast and disinfectant agent that can potentially be used for cellular imaging and antiseptic purposes.
Targets(IC50)	Antibacterial, Autophagy, DNA, Potassium Channel, Thrombin
In vitro	<p>Instructions</p> <p>I. DNA embedding</p> <p>1. Preparation of Proflavine Hemisulfate solution: Dissolve Proflavine Hemisulfate in distilled water or buffer (such as PBS) to the required concentration (usually 1-10 μM, the specific concentration can be adjusted according to experimental requirements). Note: Make sure the solution is completely dissolved and mixed evenly.</p> <p>2. DNA binding experiment:</p> <p>1) Mix Proflavine Hemisulfate solution with DNA sample and conduct the experiment according to the required concentration. The binding of Proflavine and DNA will lead to enhanced fluorescence. Usually, the excitation wavelength is 450 nm and the emission wavelength is 510 nm. 2) The reaction time is 5-15 minutes as needed.</p> <p>2. Fluorescence detection:</p> <p>1) Measure the fluorescence intensity using a fluorometer or microplate reader. The excitation wavelength is 450 nm and the emission wavelength is 510 nm. 2) The fluorescence intensity is proportional to the amount of DNA and the embedding efficiency.</p> <p>3. Applications:</p> <p>1) DNA quantification and detection. 2) Study on DNA-protein interaction. 3) DNA conformation study.</p> <p>II. Antibacterial activity</p> <p>1. Bacterial culture: Inoculate bacteria in an appropriate culture medium (such as LB fertilizer or agar plate) and culture to the desired optical density (OD). 2. Antibacterial experiment: 1) Dilute Proflavine Hemisulfate to the desired concentration (usually 10 μM to 100 μM) and add it to the bacterial culture. 2) Incubate bacteria with Proflavine Hemisulfate for 1-2 hours. The specific time can be</p>

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In vitro	optimized according to the bacterial growth rate and antibacterial activity. 3. Evaluation of antibacterial activity: 1) Monitor bacterial growth by colony counting or optical density measurement. 2) Evaluate the antibacterial effect of Proflavine Hemisulfate by observing the inhibition of bacterial growth.  The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.
In vivo	Proflavine acts as a Rev inhibitor, capable of targeting and binding to the high-affinity Rev binding sites of HIV-1.

### Solubility Information

Solubility	H2O: 20.83 mg/mL (80.65 mM), Sonication is recommended. ( $< 1$ mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.8716 mL	19.3581 mL	38.7162 mL
5 mM	0.7743 mL	3.8716 mL	7.7432 mL
10 mM	0.3872 mL	1.9358 mL	3.8716 mL
50 mM	0.0774 mL	0.3872 mL	0.7743 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

Liang J, et al. Acriflavine and proflavine hemisulfate as potential antivirals by targeting Mpro. Bioorg Chem. 2022 Dec;129:106185.

Landry M, et al. Development of a G2/M arrest high-throughput screening method identifies potent radiosensitizers. Transl Oncol. 2022 Feb;16:101336.

Hutcheson JA, et al. A widefield fluorescence microscope with a linear image sensor for image cytometry of biospecimens: Considerations for image quality optimization. Rev Sci Instrum. 2015 Sep;86(9):093709.

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