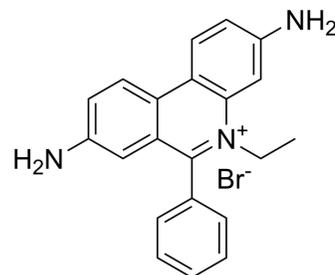


## Ethidium bromide

<b>Cat. No.:</b>	HY-D0021
<b>CAS No.:</b>	1239-45-8
<b>Molecular Formula:</b>	C <sub>21</sub> H <sub>20</sub> BrN <sub>3</sub>
<b>Molecular Weight:</b>	394.31
<b>Target:</b>	DNA Stain
<b>Pathway:</b>	Cell Cycle/DNA Damage
<b>Storage:</b>	4°C, sealed storage, away from moisture and light * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 25 mg/mL (63.40 mM; Need ultrasonic)																					
	H <sub>2</sub> O : < 0.1 mg/mL (ultrasonic) (insoluble)																					
	<table border="1"> <thead> <tr> <th rowspan="2">Solvent</th> <th rowspan="2">Mass</th> <th colspan="3">Concentration</th> </tr> <tr> <th>1 mg</th> <th>5 mg</th> <th>10 mg</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Preparing Stock Solutions</td> <td>1 mM</td> <td>2.5361 mL</td> <td>12.6804 mL</td> <td>25.3608 mL</td> </tr> <tr> <td>5 mM</td> <td>0.5072 mL</td> <td>2.5361 mL</td> <td>5.0722 mL</td> </tr> <tr> <td>10 mM</td> <td>0.2536 mL</td> <td>1.2680 mL</td> <td>2.5361 mL</td> </tr> </tbody> </table>	Solvent	Mass	Concentration			1 mg	5 mg	10 mg	Preparing Stock Solutions	1 mM	2.5361 mL	12.6804 mL	25.3608 mL	5 mM	0.5072 mL	2.5361 mL	5.0722 mL	10 mM	0.2536 mL	1.2680 mL	2.5361 mL
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Please refer to the solubility information to select the appropriate solvent.																						
<b>In Vivo</b>	<ol style="list-style-type: none"> <li>Add each solvent one by one: PBS Solubility: 9.09 mg/mL (23.05 mM); Clear solution; Need ultrasonic and warming and heat to 60°C</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 40% PEG300 &gt;&gt; 5% Tween-80 &gt;&gt; 45% saline Solubility: ≥ 2.08 mg/mL (5.28 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.08 mg/mL (5.28 mM); Clear solution</li> </ol>																					

### BIOLOGICAL ACTIVITY

<b>Description</b>	Ethidium bromide is an intercalating agent commonly used as a fluorescent tag (nucleic acid stain) in molecular biology laboratories for techniques such as agarose gel electrophoresis.
<b>In Vitro</b>	<p>Guidelines (Following is our recommended protocol. This protocol only provides a guideline, and should be modified according to your specific needs).</p> <p>?The preparation of agarose gel:</p> <p>?1. Agarose gels are commonly used in concentrations of 0.5% to 2.5% depending on the size of bands needed to be</p>

separated.

?2. Mix the agarose powder with 1X TAE/TBE.

?3. Microwave for 1-3 min until the agarose is completely dissolved (Caution: not overboil).

?4. Make the solution cool down before solidification.

?5. Add ethidium bromide (EtBr) to a final concentration of approximately 0.2-0.5  $\mu\text{g}/\text{mL}$  (Stocks are generally 10 mg/ml, and require 5  $\mu\text{L}$  stock/100 mL gel).

?6. Ethidium bromide binds to the DNA and you could visualize the DNA under ultraviolet (UV) light.

?CAUTION: EtBr is a known mutagen. Please pay attention to strengthening protection.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## CUSTOMER VALIDATION

- Sci Bull. 2023 Jul 24.
- Sci Total Environ. 2023 Sep 22;167315.
- Free Radic Biol Med. 2024 Mar 15;S0891-5849(24)00137-0.
- J Med Chem. 2024 Feb 8;67(3):2129-2151.
- Int J Mol Sci. 2023, 24(1), 575.

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## REFERENCES

[1]. P Stevenson, et al. Comparison of isometamidium chloride and homidium bromide as prophylactic drugs for trypanosomiasis in cattle at Nguruman, Kenya. Acta Trop. 1995 May;59(2):77-84.

[2]. Sabnis, Ram Wasudeo (2010). Handbook of Biological Dyes and Stains: Synthesis and Industrial Application. Hoboken, NJ: Wiley. ISBN 978-0-470-40753-0.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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