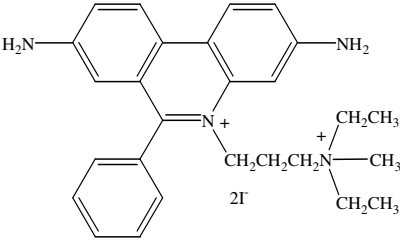


# Propidium Iodide (PI) Solution

## 3,8-Diamino-5-(3-[diethylmethylammonio]propyl)-6-phenylphenanthridinium · diiodide

### Instruction Manual

Catalog Number	PK-CA707-40017
Description	Propidium Iodide (PI) is an ethidium bromide analog that emits red fluorescence upon intercalation with double-stranded DNA. This membrane-impermeant nucleic acid intercalator passes through disturbed cell membranes and stains the nuclei. PI is commonly used to selectively stain dead cells in a cell population and also used as a counterstain in multicolor fluorescent imagings, e.g. in combination with a fluorescein compound, such as Calcein-AM or FDA, for simultaneous staining of viable and dead cells. The excitation and emission wavelengths of PI-DNA complex are 535 nm and 617 nm, respectively.
Quantity	10 ml (1 mg/ml)
Excitation / Emission Maxima	$\lambda_{ex} \backslash \lambda_{em}$ (DNA-bound) = 535/617 nm; $\lambda_{ex} \backslash \lambda_{em}$ (no DNA) = 493/636 nm Extinction coefficient: 5,400 (DNA-bound); 5,900 (no DNA).
Molecular Structure	
Molecular Weight / Molecular Formula	668.4 Da; C <sub>27</sub> H <sub>33</sub> I <sub>2</sub> N <sub>3</sub>
Purity	>98% (as determined by HPLC)
Appearance / Formulation / Solubility	Orange red liquid (1 mg PI/ml H <sub>2</sub> O); soluble in water or DMSO.
Storage & Stability	Stored desiccated at 4°C. Protect from light, especially when in solution.
Applications	Nucleus and dead cell stain  Generell Staining Protocol: 1. Prepare 10-50 µM PI solution with PBS or an appropriate buffer. <sup>a)</sup> 2. Add PI solution with 1/10 of the volume of cell culture medium to the cell culture. <sup>b)</sup> 3. Incubate the cell at 37°C for 10-20 minutes. 4. Wash cells twice with PBS or an appropriate buffer. 5. Observe the cells using a fluorescence microscope with 535 nm excitation and 617 nm emission filters.  <sup>a)</sup> Since PI may be carcinogenic, extreme care is necessary during handling. <sup>b)</sup> Or you may replace the culture medium with 1/10 concentration of PI buffer solution.
References	NA
Caution	Potentially harmful. Avoid prolonged or repeated exposure. Avoid getting in eyes, on skin, or on clothing. Wash thoroughly after handling. If eye or skin contact occurs, wash affected areas with plenty of water for 15 minutes and seek medical advice. In case of inhaling or swallowing, move individual to fresh air and seek medical advice immediately.

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