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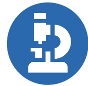
# Produktinformation

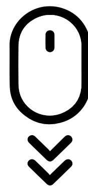
Forschungsprodukte & Biochemikalien

Zellkultur & Verbrauchsmaterial

Diagnostik & molekulare Diagnostik

 Laborgeräte & Service

Weitere Information auf den folgenden Seiten!
See the following pages for more information!



## Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

## Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand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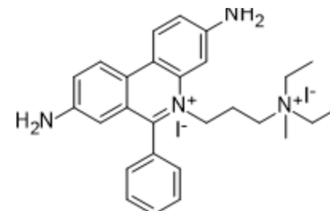
# Product Data Sheet



## Propidium Iodide

| | |
|---|---|
| **Cat. No.:** | HY-D0815 |
| **CAS No.:** | 25535-16-4 |
| **Molecular Formula:** | $C_{27}H_{34}I_2N_4$ |
| **Molecular Weight:** | 668.39 |
| **Target:** | Fluorescent Dye; DNA/RNA Synthesis |
| **Pathway:** | Others; Cell Cycle/DNA Damage |
| **Storage:** | 4°C, sealed storage, away from moisture and light<br>* In solvent : -80°C, 2 years; -20°C, 1 year (sealed storage, away from moisture and light) |




## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 100 mg/mL (149.61 mM; Need ultrasonic)
$H_2O$ : 3.57 mg/mL (5.34 mM; ultrasonic and warming and heat to 60°C)

**Preparing Stock Solutions**

| Concentration / Solvent / Mass | 1 mg | 5 mg | 10 mg |
|---|---|---|---|
| 1 mM | 1.4961 mL | 7.4807 mL | 14.9613 mL |
| 5 mM | 0.2992 mL | 1.4961 mL | 2.9923 mL |
| 10 mM | 0.1496 mL | 0.7481 mL | 1.4961 mL |

Please refer to the solubility information to select the appropriate solvent.

**In Vivo**

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (3.74 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (3.74 mM); Clear solution

## BIOLOGICAL ACTIVITY

**Description**

Propidium Iodide (PI) is a nuclear staining agent that stains DNA. Propidium Iodide is an analogue of ethidine bromide that emits red fluorescence upon embedding in double-stranded DNA. Propidium Iodide cannot pass through living cell membranes, but it can pass through damaged cell membranes to stain the nucleus. Propidium Iodide has a fluorescence wavelength of 493/617 nm and a wavelength of 536/635 nm after Mosaic with DNA. Propidium Iodide is commonly used in the detection of apoptosis (apoptosis) or necrosis (necrosis), and is often used in flow cytometry analysis.

**In Vitro**

"General Protocol

1.Preparation of PI working solution
1.1 Preparation of the stock solution

Dissolve 1 mg PI in 1 mL DDH$_2$O to obtain 1 mg/mL of stock solution.
Note: It is recommended to store the stock solution at -20°C or -80°C away from light and avoid repetitive freeze-thaw cycles.
1.2 Preparation of PI working solution
Dilute the stock solution in serum-free cell culture medium or PBS to obtain 20-50 µg/mL of working solution.
Note: Please adjust the concentration of PI working solution according to the actual situation.
2.Cell staining
2.1 Suspension cells�6-well plate�
a.Centrifuge at 1000 g at 4°C for 3-5 minutes and then discard the supernatant. Wash twice with PBS, 5 minutes each time.The cell density is 1×106/mL.
b.Add 1 mL of working solution, and then incubate at room temperature for 5-10 minutes.
c.Centrifuge at 400 g at 4°C for 3-4 minutes and then discard the supernatant.
d.Wash twice with PBS, 5 minutes each time.
e.Resuspend cells with serum-free cell culture medium or PBS. Observation by fluorescence microscopy or flow cytometry.
2.2 Adherent cells
a. Culture adherent cells on sterile coverslips.
b. Remove the coverslip from the medium and aspirate excess medium.
c. Add 100 µL of working solution, gently shake it to completely cover the cells,and then incubate at room temperature for 5-10 minutes.
d. Wash twice with medium, 5 minutes each time. Observation by fluorescence microscopy or flow cytometry.

Storage
-20°C, 1 year
Protect from light

Precautions
1. Please adjust the concentration of PI working solution according to the actual situation.
2. This product is for R&D use only, not for drug, household, or other uses.
3. For your safety and health, please wear a lab coat and disposable gloves to operate.
"
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## PROTOCOL

**Cell Assay** [2]

Flow cytometric analysis: Propidium iodide is prepared in in 0.1% sodium citrate plus 0.1% Triton X-100 (50 µg/mL). The 200 ×g centrifuged cell pellet is gently resuspended in 1.5 mL hypotonlc fluorochrome solution (Propidium iodide 50 µg/mL), in 12×75 polypropylene tubes. The tubes are placed at 4°C in the dark overnight before the flow cytometric analysis. The propidium Iodide fluorescence of individual nuclei is measured using a FACScan flow cytometer. The nuclei traverses the light beam of a 488 nm Argon laser. A 560 nm dichrolc nurror (DM 570) and a 600 nm band pass filter (bandwidth 35 nm) are used for collecting the red fluorescence due to propidium Iodide staining of DNA and the data are registered on a logarithmic scale[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## CUSTOMER VALIDATION

- Bioact Mater. 2022 Aug 11;21:20-31.
- ACS Nano. 2023 Feb 8.
- Small. 2022 Jul;18(30):e2202002.
- Autophagy. 2022 Jul 4.

- Clin Cancer Res. 2023 Sep 19.

See more customer validations on www.MedChemExpress.com

## REFERENCES


[1]. Nicoletti I, et al. A rapid and simple method for measuring thymocyte apoptosis by propidium iodide staining and flow cytometry. J Immunol Methods. 1991 Jun 3;139(2):271-9.

[2]. Hezel M, et al. Propidium iodide staining: a new application in fluorescence microscopy for analysis of cytoarchitecture in adult and developing rodent brain. Micron. 2012 Oct;43(10):1031-8.

[3]. A rapid and simple method for measuring thymocyte apoptosis by propidium iodidestaining and flow cytometry. J Immunol Methods. 1991 Jun 3;139(2):271-9.


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