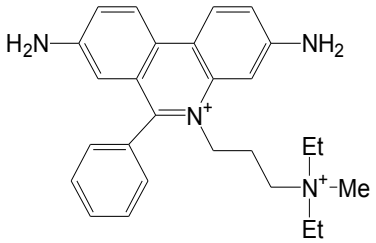
Propidium diiodide 或 PI 染色液说明书

中文名：3,8-二氨基-5-[3-(二乙基甲氨基)丙基]-6-苯基啡啶二碘；碘化丙啶

英 文 名： 3,8-Diamino-5-[3-(diethylmethylammonio)propyl]-6-phenylphenanthridini-um diiodide；Propidium iodide；Propidium diiodide；PI

分子式：C27H34I2N4　分子量：668.39；　CAS#：25535-16-4

结构式：



性质：

1. 外观：碘化丙啶固体为红棕色粉末；PI 染色液为紫红色溶液 浓度：10mM solution in DMSO

2. 纯度：≥98%超纯级 UltraPure

3. 产品描述：

PI 是一种可对 DNA 染色的细胞核染色试剂，它在嵌入双链 DNA 后释放红色荧光。常用于细胞凋亡(apoptosis)或细胞坏死(necrosis)的检测，常用于流式细胞仪分析。尽管 PI 不能通过活细胞膜，但却能穿过破损的细胞膜而对核染色。PI 经常被用来与 Calcein, AM、Hoechst 33258 或 Hoechst 33342 等一起使用，能同时对活细胞和死细胞染色。PI-DNA 复合物的激发和发射波长分别为 535nm 和 615nm。

4. 染色过程

（1） 用 PBS 或适当的缓冲液制备 10～50μM 的 PI 溶液。

（2） 将 1/10 培养基体积的 PI 溶液加入到细胞培养基中（也可以用 1/10 浓度的 PI 缓冲液代替培养基）。

（3） 在 37℃培养细胞 10～20 分钟。

（4） 用 PBS 或合适的缓冲液洗涤细胞两次。

（5） 用 535nm 激发波长，615nm 发射波长的滤光器的荧光显微镜观察细胞。

储存条件：-20℃干燥避光保存，有效期一年。

注意事项：

Sigma 的 MSDS 显示碘化丙啶 PI 与 EB 一样对生殖细胞致突变性，可能致癌，请必须注意防护。

Propidium diiodide and 1.5 mM PI aqueous solution

Description

Chemical Name: 3,8-Diamino-5-[3-(diethylmethylammonio)propyl]-6-phenylphenanthridini-um diiodide；
Propidium iodide；Propidium diiodide；PI

Appearance: reddish-brown powder

Purity: ≥98% UltraPure； MW: C27H34I2N4=668.39；CAS: 25535-16-4

Storage& Shipping Condition : Store at 4°C protected from light. Product is shipped at ambient temperature

Product Description

Propidium iodide (PI) is an ethidium bromide analog that emits red fluorescence upon intercalation with double-stranded DNA. Though PI does not permeate viable cell membranes, it passes through disturbed cell membranes and stains the nuclei. PI is often used 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 615 nm, respectively.

Application---Staining Procedure

1. Prepare 10-50 μM PI solution with PBS or an appropriate buffer
2. Add PI solution with 1/10 of the volume of cell culture medium to the cell culture
3. Incubate the cell at 37oC for 10-20 min.
4. Wash cells twice with PBS or an appropriate buffer.
5. Observe the cells under a fluorescence microscope with 535 nm excitation and 615 nm emission filters.

Note: Since PI may be carcinogenic, extreme care is necessary during handling.

Reference

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