Product Information

YO-PRO-1 Iodide and PI Membrane Permeability Apoptosis Detection Kit

Catalog Number: Y6077

Product Size: 50 T, 100 T

Contents:

Component	50 T	100 T
A. YO-PRO-1 Iodide dye	50 μL	100 μL
B. Propidium Iodide (PI)	50 μL	100 μL

Storage

Store at 4 ℃ and protect from light. When stored as directed, product is stable for at least 6 months.

Parameters

YO-PRO-1Iodide dye: Ex/Em: 491/509 nm (with DNA)

Propidium Iodine: Ex/Em: 535/617 nm (with DNA)

Description

Apoptosis refers to the spontaneous and orderly death of cells controlled by genes in order to maintain the stability of internal environment. Different from necrosis, apoptosis is an active process, which involves the activation, expression and regulation of a series of genes. Abnormal apoptosis is usually associated with certain diseases, such as Alzheimer's disease and cancer. The difference between apoptosis and necrosis lies in the characteristic morphological and biochemical changes, including the change of nuclear chromatin, the contraction of cytoplasm and the loss of membrane asymmetry. In addition, the permeability of plasma membrane changes during apoptosis. Some dyes, such as the green fluorescent dye YO-PRO-1 iodide, can enter the apoptotic cells, while others, such as the red fluorescent dye, can not. Therefore, the simultaneous use of YO-PRO-1 iodide and PI can be used to detect apoptosis.

YO-PRO-1 Iodide and PI Membrane Permeability Apoptosis Detection Kit provides a fast and convenient method for apoptosis detection. The kit provides two dyes, YO-PRO-1 iodide and PI, which can be used directly. When YO-PRO-1 iodide and PI are used to stain cell groups, apoptotic cells show green fluorescence, dead cells show red and green fluorescence simultaneously, and the living cells show little or no fluorescence. These cell groups can be easily distinguished by excitation of 488 nm argon ion by flow cytometry.

Protocol

Flow cytometry

The following methods are used to optimize the experimental conditions by using Jurkat cells. Camptothecin treatment is used to induce apoptosis. For other types of cells, the experimental conditions may need to be modified to achieve the optimal experimental results.

1. Induced apoptosis according to experimental requirements. Test sample should contain untreated cell samples as negative control. In addition, set a group of samples of single dyeing for adjust compensation.

2. Collect cells. For suspension cells: centrifuged at 300 xg for 5 min; For adherent cells: after digestion with pancreatin, centrifuged at 300 xg for 5 min, digestion time of pancreatin

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should not be too long to prevent from false positive.

Note: trypsin was used to digest the cells, then put cells in the best cell culture conditions and medium for about 30 minutes for recovering before then stained.

3. Wash the collected cells twice with precooling PBS and suspended with 1mL precooling PBS to control the cell density at about 1 × 106cells/mL.

4. Add 1 μL YO-PRO-1 iodide and 1 μL PI to the above cell suspension, gently blow and mix

Note: we recommend to prepare two additional flow tubes, each of which only add one single dye (YO-PRO-1 iodide or PI) for compensation adjustment.

5. Cells were incubated on ice for 20-30 minutes.

6. After incubation, samples should be detected within 1-2 hours with flow cytometry.YO-PRO-1 iodide can be excited by 488 nm laser, and its fluorescence emission spectrum is about 530 ± 30 nm (FITC channel), while that of PI channel is about 617 nm (PI or PE channel).

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