Cell Cycle Assay Kit MG3668

Technical literature is available at: www.mesgenbio.com. E-mail MesGen Technical Services if you have questions on use of this system: tech@mesgenbio.com

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Product overview

Propidium Iodide (PI) binds to double-stranded DNA. PI cannot cross intact plasma membrane and therefore will only be present in DNA of cells where the plasma membrane has been compromised/ permeabilized. Propidium Iodide (PI) (MW=668.4 Da) is an intercalating agent and a fluorescent molecule which is membrane impermeant and generally excluded from viable cells. Upon entering cells, PI will bind to DNA and RNA by intercalating between bases. Once bound to the nucleic acids, its fluorescence is enhanced 20- to 30-fold. Ex_{max}= 536nm / Em_{max}= 617 nm. This kit provides a rapid and convenient assay for cell cycle and cell proliferation. For normal cells, the content of DNA is changed with the process of cell cycle. Observed DNA stained by dyes using flow cytometry to calculate percentage of G0/G1, S, and G2/M. It will be clear known that how about the distribution of cell cycle and the activity of proliferation. For apoptotic cells, DNAs in cells is degraded by endogenous nuclease activated and diffuse out of cells with the process of apoptosis. A highly definable sub-G1 peak occurs and is easily quantified by dyes. The change of DNA in apoptotic cells is also assayed for sorting and further analyzing apoptotic cells. After RNA is degraded by RNase, the nucleic acid dye in this kit bind with DNA composed of chromatin in the nucleus. And the results can be analyzed by flow cytometry.

Kit Components

	50 Assays	100 Assays
RNase A Solution	1ml	2ml
PI Staining Solution	20ml	40ml

Key features

- Versatile : this kit is used for detecting cell cycle not only suspension cells but also adherence cells
- Direct quantitation for normal, apoptotic, and dead cells by flow cytometry.
- Ready to use
- Highly competitive price

Assay Protocol

1. Induce cell apoptosis using proper method and set a negative control. Harvest cells.
2. Add cold PBS to wash cells once. Then, centifugate cells at 2000 rpm for five minutes.
3. Add cold PBS to resuspend cell and adjust cell concentration to 1×10^6/ml.
4. Centifugate cells at 2000 rpm for five minutes and discard the suspernatant.
5. Fix cells using 70% ethanol at 4°C for two hours or overnight.
6. Use cold PBS to wash cells for removing fixing solution. If necessary, filter cell suspension once using sieve with 200 meshes.
7. Add 20 µl of RNase A to cells suspension and incubate cells at 37 °C for 30 minutes.
8. Add 400 µl of PI to stain. Incubate cells at 4 °C for 30minutes and protect from light.
9. Observe at 488 nm of excitation wavelength by flow cytometry.

Store condition

This kit remains stable for at least one year if stored at -20°C and protected from light.

Note :

Propidium Iodide (PI) contained in this kit is a mutagen. Gloves, protective clothing, and eyewear should be worn and safe laboratory practices followed.

For Research Use Only. Not For Use In Diagnostic Procedures.