7-AAD Cell Cycle Analysis Kit

Catalog Number	Size
FXP031-050	50 Tests
FXP031-100	100 Tests
FXP031-200	200 Tests

7-AAD Cell Cycle Analysis Kit provides a rapid and convenient assay for cell cycle and cell proliferation using flow cytometry. This package insert must be read in its entirety before using this product. If you have questions or experience problems with this product, please contact our Technical Support staff. Our scientists commit themselves to providing rapid and effective help.

FOR RESEARCH USE ONLY
NOT FOR USE IN DIAGNOSTIC PROCEDURES

INTRODUCTION

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 G_0 /G_1, S, and G_2 /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.

REAGENTS

7-AAD Cell Cycle Analysis Kit is used for detecting the different stages of cell cycle.

Table 1: Reagents of the Kit

Reagents	50T	100T	200T
Staining buffer	5ml	10ml	20ml
7-AAD (25X)	0.2ml	0.4ml	0.8ml

KEY FEATURES

1. Easy to perform: simple and rapid procedure to perform.
2. Versatile: this kit is used for detecting cell cycle not only suspension cells but also adherence cells
3. Direct quantitation for normal, apoptotic, and dead cells by flow cytometry.
4. Ready to use
5. Highly competitive price

STORAGE

This kit remains stable for at least 18 months if stored at 4℃and protected from light.

THE REQUIRED ITEMS (not provided, but can help to buy):

1. 5 ml and 10 ml graduated pipettes
2. 5 µl to 1000 µl adjustable single channel micropipettes with disposable tips
3. Beakers, flasks, cylinders necessary for preparation of reagents
4. Glass-distilled or deionized water， 95% ethanol and RANase
5. PBS (for 1 liter: 8.00g NaCl, 0.20 g KCl, $Na_2HPO_4 \cdot 12\ H_2O$ 2.85 g， 0.20 g KH_2PO_4)
6. Bench top centrifuge
7. Flow Cytometer

PRECAUTIONS FOR USE

1. All reagents should be considered as potentially hazardous. We therefore recommend that this product is handled only by those persons who have been trained in laboratory techniques and that it is used in accordance with the principles of good laboratory practice. Wear suitable protective clothing such as laboratory overalls, safety glasses and gloves. Care should be taken to avoid contact with skin or eyes. In the case of contact with skin or eyes wash immediately with water.
2. Do not mix or substitute reagents with those from other lots or other sources.
3. Do not use kit reagents beyond expiration date on label.
4. Do not expose kit reagents to strong light during storage or incubation.
5. Do not eat or smoke in areas where kit reagents or samples are handled.
6. Rubber or disposable latex gloves should be worn while handling kit reagents or specimens.
7. Avoid splashing or generation of aerosols.
8. In order to avoid microbial contamination or cross-contamination of reagents which may invalidate the test use disposable pipette tips and/or pipettes.
9. Glass-distilled water or deionized water must be used for reagent preparation.
10. Decontaminate and dispose specimens and all potentially contaminated materials as they could contain infectious agents. The preferred method of decontamination is autoclaving for a minimum of 1 hour at 121.5°C.
11. Liquid wastes not containing acid and neutralized waste may be mixed with sodium hypochlorite in volumes such that the final mixture contains 1.0% sodium hypochlorite. Allow 30 minutes for effective decontamination. Liquid waste containing acid must be neutralized prior to the addition of sodium hypochlorite.

GENERAL PROTOCOL

1. Induce cell apoptosis using proper method and set a negative control. Harvest cells.
2. Add PBS to wash cells once. Then, centifugate cells at 300g for five minutes.
3. Add PBS to resuspend cell and adjust cell concentration to 1×10^7 /ml.
4. Centifugate cells at 300g for five minutes and discard the suspernatant.
5. Fix cells using 70% ethanol at 4°C for two hours or overnight. Take 4 ml precooled 95% ethanol, add 1 ml cell suspension drop by drop into ethanol on low speed vortex oscillation , mix and fix at 4 ° C for 2 hours or more.
6. Use PBS to wash cells for removing fixing solution. If necessary, filter cell suspension once

using sieve with 200 meshes.

7. Preparation of 7-AAD dyeing solution

	1 Sample	6 Samples	12 Samples
Staining buffer	0.1ml	0.6ml	1.2ml
7-AAD (25X)	4μl	24μl	48μl
RNase A（Cat.FXP0211R）	2μl	12μl	24μl

8. Add 100 μl 7-AAD dyeing solution to cells suspension and incubate cells at 37 °C for 30 minutes.
9. Observe at of by flow cytometry. The maximum emission wavelength is 647 nm, and the excitation wavelength is 488 nm or 535nm.

RELATED PRODUCTS

Table 2: Related products

Products name	Catalog number	size
PI Cell Cycle Analysis Kit	FXP021	50T/100T/200T
PI Cell Cycle Analysis Kit (with RNase)	FXP0211	50T/100T/200T
7-AAD Cell Cycle Analysis Kit	FXP031	50T/100T/200T
7-AAD Cell Cycle Analysis Kit (with RNAase)	FXP0311	50T/100T/200T

If you have any questions, please tell us!