



Cat. No. BM800-000-001

100 TESTS

## Annexin V–FITC Apoptosis Detection Kit

### PRODUCT DESCRIPTION

The Annexin V–FITC Apoptosis Detection Kit is designed for the quantitative detection of apoptotic and necrotic cells by flow cytometry or fluorescence microscopy. Annexin V is a  $\text{Ca}^{2+}$ -dependent phospholipid-binding protein with high affinity for phosphatidylserine (PS), which translocates from the inner to the outer leaflet of the plasma membrane during early apoptosis.

By combining Annexin V–FITC with Propidium Iodide (PI), the kit enables discrimination between viable, early apoptotic, late apoptotic, and necrotic cells.

### PRINCIPLE OF THE ASSAY

| Component             | Function                                                |
|-----------------------|---------------------------------------------------------|
| Annexin V–FITC        | Binds to exposed phosphatidylserine on apoptotic cells. |
| Propidium Iodide (PI) | Penetrates cells with compromised membranes.            |
| Dual staining         | Differentiates major stages of apoptosis.               |

### CELL STATUS INTERPRETATION

| Annexin V–FITC | PI | Cell Status     |
|----------------|----|-----------------|
| –              | –  | Viable          |
| +              | –  | Early Apoptosis |
| +              | +  | Late Apoptosis  |
| –              | +  | Necrosis        |

### KIT COMPONENTS

| Component             | Description                         | Quantity  |
|-----------------------|-------------------------------------|-----------|
| Annexin V–FITC        | FITC-labeled Annexin V              | 100 tests |
| Propidium Iodide (PI) | 50 µg/mL solution                   | 100 tests |
| 1× Binding Buffer     | $\text{Ca}^{2+}$ -containing buffer | 30 mL     |
| Instruction Manual    | Protocol and guidelines             | 1         |

## STORAGE CONDITIONS & SAMPLE TYPES

- Store at 2–8°C
- Do not freeze
- Protect Annexin V–FITC from light
- Stable for 12 months when stored properly
- Cultured adherent or suspension cells
- Mammalian cells (human, mouse, rat, etc.)
- Recommended cell number:  $1 \times 10^5$  –  $1 \times 10^6$  cells per assay

## ASSAY PROCEDURE — FLOW CYTOMETRY

1. Harvest cells and wash once with cold PBS.
2. Resuspend cells in 100  $\mu$ L 1 $\times$  Binding Buffer.
3. Add 5  $\mu$ L Annexin V–FITC and 2  $\mu$ L Propidium Iodide.
4. Gently mix and incubate 10–15 min at room temperature in the dark.
5. Add 400  $\mu$ L 1 $\times$  Binding Buffer.
6. Analyze by flow cytometry within 1 hour.

## FLOW CYTOMETRY SETTINGS (TYPICAL)

| Fluorophore | Excitation | Emission        | Channel   |
|-------------|------------|-----------------|-----------|
| FITC        | 488 nm     | 530 $\pm$ 15 nm | FL1       |
| PI          | 488 nm     | >600 nm         | FL2 / FL3 |

## DATA INTERPRETATION

- Q4 (FITC– / PI–): Viable cells
- Q3 (FITC+ / PI–): Early apoptotic cells
- Q2 (FITC+ / PI+): Late apoptotic cells
- Q1 (FITC– / PI+): Necrotic cells

## PERFORMANCE CHARACTERISTICS

### APPLICATIONS

- Apoptosis research
- Drug screening
- Cancer biology
- Immunology
- Toxicology studies

### LIMITATIONS & SAFETY

**For Research Use Only (RUO).** Not for diagnostic or therapeutic use. Calcium is required for Annexin V binding.

Handle PI with care; it is a potential mutagen. Wear appropriate personal protective equipment. Dispose of reagents according to local regulations.

### ORDERING INFORMATION

|              |                                        |
|--------------|----------------------------------------|
| Product Name | Annexin V–FITC Apoptosis Detection Kit |
| Cat. No.     | BM800-000-001                          |
| Format       | 100 tests                              |
| Storage      | 2–8°C                                  |