

## SeekMate AO/PI Staining Kit User Manual

### Product Name:

SeekMate AO/PI Staining Kit

### Product Number:

K01701

### Specification:

5 mL

### Intended Use:

This product is a fluorescent reagent used with the SeekMate Tinitan™ Fluorescence Cell Counter (REF: M002C, abbreviated as SeekMate Tinitan™ FL) for rapid cell viability detection. It is primarily used for measuring the concentration and viability of various mammalian cell lines and primary cells.

### Principle of Detection:

This reagent consists of acridine orange (AO), a DNA-binding dye emitting green fluorescence, and propidium iodide (PI), a DNA-binding dye emitting red fluorescence.

AO is a small molecule nucleic acid stain that can freely pass through intact cell membranes and bind to DNA in the nuclei of both live and dead cells, emitting **green fluorescence when excited by blue light**.

PI however, cannot penetrate intact cell membranes and only enters cells with compromised membranes (dead cells), where it binds to nuclear DNA and **emits red fluorescence when excited by green light**.

When both AO and PI are present in the nucleus of a dead cell, **PI competitively displaces AO**, leading to a predominant **red fluorescence signal under green light excitation**.

Since AO and PI specifically bind to DNA, they selectively stain nucleated cells while minimizing interference from debris and enucleated cells (such as mature erythrocytes). The **SeekMate Tinitan™ FL** then accurately measures the concentration and viability of the cell samples.

### Main Components:

This reagent is a mixture of AO and PI dyes.

### Storage Conditions and Shelf Life:

Unopened reagents can be stored at 2-8°C for 12 months, protected from light. Use within the expiration date.

Transported at room temperature, after receiving the goods, please keep it to 2-8°C in time.

### Sample Requirements:

This reagent is suitable for various mammalian cell lines, primary cells, and immune cells.

**Usage Method:**

1. Gently mix the sample suspension by pipetting.
2. Mix 10  $\mu$ L of SeekMate AO/PI Staining Solution with 10  $\mu$ L of the sample suspension by pipetting up and down 10 times.
3. Slowly and evenly add 10  $\mu$ L of the mixed sample to the SeekMate cell counter chip.
4. Insert the cell counting chip into the SeekMate Tinitan™ FL.
5. Select the AO/PI counting mode, enter sample information, and start the measurement to obtain the sample test results.

**Precautions:**

1. Fluorescent dyes are prone to quenching, affecting detection results. Protect from light during storage and use.
2. Fluorescent staining solutions are irritants, wear gloves and use protective measures during handling.
3. This product is for scientific research use only and not for clinical diagnosis or treatment.
4. Complete the detection within 30 minutes after mixing the sample. Finish testing within 5 minutes after adding the sample to the cell counter chip to prevent reagent evaporation.
5. After inserting the cell counter chip into the device, wait 1 minute for cell sedimentation before starting the experiment.

**Manufacturer:** Beijing SeekGene BioSciences Co.,Ltd  
**Address:** Room 201, Floor 2, Tower A Building 9, Zone1,  
8 Life Science Park way, Life Science Park, Changping  
District, Beijing, China.

**Phone:** +86 (010) 56918048

**Email:** info@seekgene.com

**Website:** <https://www.seekgene.com>

