Cell Migration Assay Kit (24-Well Plate, 8 μm)

Cat #: KTA5010 Size: 12 T/12 T×4

	Cell Migration Assay Kit (24-Well Plate, 8 μm)		
REF	**Cat #:** KTA5010	LOT	**Lot #:** Refer to product label
	Applicable samples: Migratory cells		
	Storage: Store according to the recommended storage conditions of each component, stable for 6 months.		

Assay Principle

Cell migration, in general, refers to the property of cells that are stimulated by external signals to migrate from one place to another, usually occurring in processes such as wound healing, cell differentiation, embryonic development and tumor metastasis. Transwell is an experimental technology that can simulate many mucosal and biological barrier systems of the body in vitro. The main material of this technology is the Transwell chamber, and Abbkine Cell Migration Assay Kit (24-Well Plate, 8 μm) uses a polycarbonate membrane (8 μm pore size) to measure the migration characteristics of cells. The principle is to put the Transwell chamber into the culture plate, the chamber is called the upper chamber, the inside of the culture plate is called the lower chamber, and the upper and lower layers of culture medium are separated by polycarbonate membranes. The polycarbonate membrane is permeable, and the components in the lower culture medium can affect the cells in the upper chamber. Through staining and elution, the number of cells was counted to reflect the migration ability of cells.

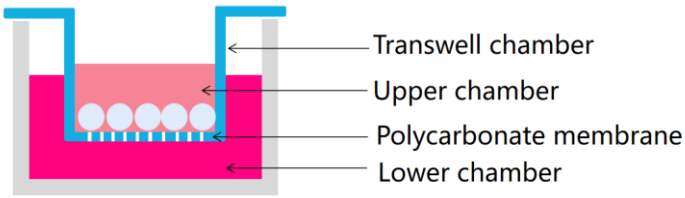

Figure 1. Schematic diagram of Transwell chamber.

Materials Supplied and Storage Conditions

Kit components	Size		Storage conditions
	12 T	12 T×4	
24-Well Migration Plate	1	1×4	4℃
Fixation Solution	10 mL	10 mL×4	-20℃
Staining Solution	10 mL	10 mL×4	4℃
Elution Solution	10 mL	10 mL×4	4℃

Materials Required but Not Supplied

- Migratory cell lines
- Cell culture medium with 10% FBS
- Serum-free medium (that is, Cell culture medium with 0% FBS)
- Cell culture incubator (37℃, 5% CO_2)
- PBS, Cotton swabs, Tweezers, 96-well plate, 24-well plate, Precision Pipettes, Disposable Pipette Tips
- Microscope
- Microplate Reader capable of measuring absorbance at 570 nm

Reagent Preparation

24-Well Migration Plate: Ready to use as supplied. Equilibrate to room temperature before use. Store at 4℃.
Fixation Solution: Ready to use as supplied. Equilibrate to room temperature before use. Store at -20℃.
Staining Solution: Ready to use as supplied. Equilibrate to room temperature before use. Store at 4℃.
Elution Solution: Ready to use as supplied. Equilibrate to room temperature before use. Store at 4℃.

Assay Procedure

Note: Before the formal experiment, be sure to perform a pre-experiment to determine the optimal experimental conditions for cell migration, such as cell number, cell culture time, and staining time.

1. In a clean bench, equilibrate the 24-well Migration Plate for 10 min at room temperature.
2. Prepare a cell suspension by diluting the cells to 0.5-5.0×10^6 cells/mL with serum-free medium.

Note: It is recommended to starve cells overnight before doing cell migration.

3. Add 600 μL medium containing 10% feta l bovine serum or the desired chemoattractant to the lower chamber of the 24-well Migration Plate, then add the chamber to wet, and add 100 μL of cell suspension to the upper chamber.

Note: (1) The solution in the upper and lower chambers must not generate air bubbles, so that the migration effect will be weakened. (2) The state of the cells is very important, and try to select cells with fewer passages.

4. Incubate for 2-24 h in a cell culture incubator (37℃, 5% CO_2).

Note: Excessive incubation time may cause some of the migrated cells to fall off the bottom surface of the membrane. It is recommended to select an appropriate incubation time through pre-experiment.

5. Carefully remove the chamber, aspirate the medium in the upper chamber, and gently wipe off the non-migrated cells in the upper chamber with the end of a damp cotton swab.

Note: Wiping off the non-migrated cells in the upper chamber must be gentle and do not puncture the polycarbonate membrane.

6. Transfer the chamber to a well containing 600 μL Fixation Solution, fix for 10 min at room temperature, and wash with PBS three times.
7. Transfer the chamber to a well containing 600 μL Staining Solution, stain for 5 -15 min at room temperature, wash with PBS three times for 3 min each, and air dry. (If the chamber is still darkly stained, it is recommended to gently wash the chamber three times in a beaker with PBS and air dry)

Note: Both the ambient temperature and the reagent temperature will affect the time required for dyeing, but a shorter dyeing time only affects the depth of the dyeing. If the color is lighter, the temperature can be appropriately heated or the dyeing time can be extended to achieve the desired dyeing effect. Dipping at 37℃ for 15 min can ensure full coloration.

8. The chamber is placed in a clean well, and the microscope selects at least 3 fields of view to observe, take pictures, and co unt migrating cells.
9. After taking the picture, add 400 μL Elution Solution to the lower ch amber, elute for 10 min, completely elute the Staining Solution, pipette 200 μL the eluted solution into a 96 -well plate, measure the OD value at 570 nm.

Note: (1) Usually at room temperature of 22-28℃, it takes 10 min to complete the elution, and the elution time can be adjusted appropriately according to the difference in temperature. (2) According to the specific experimental needs, you can choose to take photos of staining and measure the OD value.

Recommended Products

Catalog No.	Product Name
KTA1020	Cell Counting Kit-8 (CCK-8)
BMU106-EN	SuperKine™ Maximum Sensitivity Cell Counting Kit-8 (CCK-8)
KTA3030	Senescence β-Galactosidase Staining Kit

Disclaimer

The reagent is only used in the field of scientific research, not suitable for clinical diagnosis or other purposes.