Magnetic Transfection Kit, 50 nm
PRODUCT DATA SHEET

Magnetic Transfection Kit, 50 nm

Description

The 50 nm magnetic transfection reagent has high loading capacity and high surface positive charge, so it has high transfection efficiency, safety, environmental protection and pollution-free, good colloidal stability, and excellent magnetic resonance imaging ability. The product is brown clarified hydrocolloid, which has been filtered by 0.22 micron filter membrane for bacteria removal, simple operation, antibiotic-containing medium, easy to be phagocytic by cells under the action of magnetic plate (24 or 96 wells), and can be used for efficient transfection experiment of DNA or RNA.

Abvigen offers high quality 50 nm magnetic transfection reagent. The product has high repeatability between batches, which can meet the needs of various customers for personalized materials such as research and development, testing and production.

For custom sizes, formulations or bulk quantities please contact our customer service department.

Website: www.abvigen.com Phone: +1 929-202-3014 Email: info@abvigenus.com

Characteristics

Type: Magnetic Transfection Kit

Surface group: PEI

Dispersing solvent: Ultrapure water

Particle size: 50 nm

Size: 0.1 mL

Storage condition: Seal, store at 2-8°C, do not freeze.

Application Example

Cells were inoculated before transfection

In order to obtain higher transfection efficiency, it is recommended to use cells less than 50 generations for transfection experiments. It is required to pass the cells again 24 h before transfection, and **the cell density should generally be 70-90% at transfection**. Please note that the optimal

experimental conditions vary depending on the cell line. The following recommendations can be used as a guide to achieve good transfection results with the shortest incubation time.

Adherent cells (24-well plate as an example)

1) Dilute 1 μg DNA plasmid into 100 μL serum-free medium, mix gently, and let stand for about 10 min.

2) 1 μL of transfection reagent was added to the DNA solution of step 1, gently mixed, and left to react at room temperature for 20 min.

3) Replace the complete medium of 24-well plate cells, wash the cells once with PBS, and then add a certain volume (according to the recommended volume in the table, consider the volume of serum added later) of the serum-free medium.

4) The 100 μL DNA-transfection reagent complex was added into the hole, shaken flat and mixed, with a 24-well magnetic label plate at the bottom, and transfected into a CO_2 incubator at 37°C for 20 min.

5) Remove the bottom magnetic label plate, add serum in the transfection hole, and continue to culture in a CO_2 incubator at 37°C.

6) After 24 h, the culture medium containing transfection complex was washed and replaced with fresh culture medium.

7) After culture under standard conditions, the transfection efficiency of reporter genes could be analyzed.

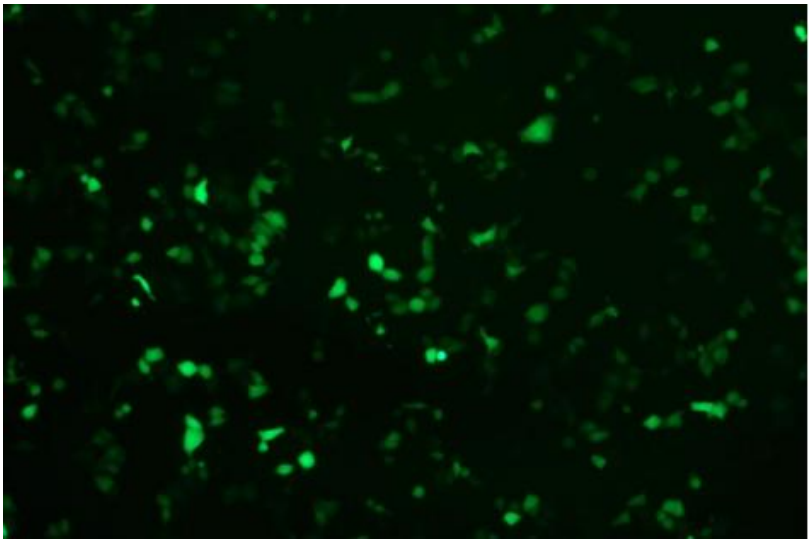

Figure. Effect diagram of A549 cells transfected for 24 h.

Suspension cell

While the reagent incubates to form the complex, the cells to be transfected are cultured in a medium (with or without serum - or additives; Depending on cell type and cell sensitivity to serum-free

conditions) diluted to 5×10^5-1×10^6 /mL, using one of the following three methods to sink the cells to the bottom of the petri dish to increase contact with magnetic particles.

1) Cells were inoculated on the poly-lysine-coated plate, following the experimental procedures applicable to adherent cells.

2) Centrifuge the cells briefly (2 min) to form a cell mass, then follow the experimental procedures applicable to adherent cells.

3) The cell suspension was mixed with transfection reagents and incubated with 30 μL transfection reagents per mL of cells for 10-15 min. The operation is as follows:

The cells are placed in a tissue culture dish on a magnetic plate (the volume of the medium containing the cells depends on the size of the dish; The transfection volume recommended in the table) was incubated for 15 min. The prepared DNA-transfection reagent complex was added to the cells, and the cell culture plate remained on the magnetic plate for another 15 min.

The supernatant medium was carefully removed from the cells and fresh complete medium was added while the culture plate remained on the magnetic plate. Be careful not to suck up cells that have sunk due to magnetic forces.

Remove the culture plate from the magnetic marker plate. Transfection efficiency of reporter gene could be analyzed after culture under standard conditions.

Recommended amount of DNA, transfection reagent volume and transfection volume.

The recommended numbers of adherent cells and suspended cells for transfection are shown in the table below:

Tissue culture dish	**Number of cells per pore**	**DNA quantity (μg)**	**ABMTK-50 (μL)**	**Transfection volume (mL)**
96-well culture plate	$(0.5\text{-}2)\times10^4$	0.1-0.5	0.1-0.5	0.2
24-well culture plate	$(0.5\text{-}1)\times10^5$	0.5-3	0.5-2	0.5
6-well culture plate	$(1\text{-}4)\times10^5$	2-6	2-6	2
60 mm petri dish	$(5\text{-}10)\times10^5$	6-8	6-8	5
90-100 mm	$(1\text{-}2)\times10^6$	8-12	8-12	10

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petri dish				
T-75 culture bottle	(2-5)×10^6	15-25	15-25	15-25

* Total transfection volume = medium + DNA-transfection reagent complex

Common Problems and Solutions

1. Low transfection efficiency

High quality plasmid DNA was used and confirmed to contain no RNA (OD260/OD280 greater than 1.8 and less than 2).

Optimize cell density before transfection and ensure that cell morphology is optimal.

Optimize the transfection reagent /DNA ratio.

Reduce the volume of cell medium during transfection.

2. High cytotoxicity

The health status of cells before inoculation directly affects cytotoxicity.

Confirm that the plasmid has no endotoxin.

Reduce the amount of transfection reagents, or maintain the transfection reagent /DNA ratio to reduce the amount.

Reduce the culture time of complexes and cells, and replace fresh complete media in time.

Advantages

High transfection efficiency

Safety

Environmental protection and pollution-free

Good colloidal stability

Excellent magnetic resonance imaging ability

Applications

Experimental study on efficient transfection of DNA or RNA

Storage

Seal, store at 2-8°C, do not freeze.

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Note

Avoid freezing and thawing during use and storage. Close the bottle tightly after use.

Ordering Information

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