PEI 40K Transfection Reagent

AO-03-PEI 40K-1ML

Product information

product name	Identification of product	model
PEI 40K Transfection Reagent	G1802-1ML	1 mL

Descirption/Introduction

PEI 40K Transfection Reagent (linearized polyethyleneimine transfection reagent) is a highly charged cationic polymer with a molecular weight of 40,000 based on linearized polyethyleneimine, which is positively charged and can effectively bind negatively charged nucleic acids to form a complex with them and introduce them into the cells, and it is suitable for the transfection of plasmid DNA in cells. PEI 40K (linearized polyethyleneimine) transfection reagent has low cytotoxicity, high transfection efficiency and low cost, making it very cost-effective compared to liposome-based transfection reagents. It has been validated that the linear PEI 40K transfection reagent is widely used in a variety of cell lines including HEK-293, HEK293T, CHO-K1, COS-1, COS-7, NIH/3T3, Sf9, HepG2, and Hela cells, etc., with transfection efficiencies as high as 80%~90%. The concentration of PEI 40K, the main component of this product, is 1 mg/mL.

Storage and Handling Conditions

Ship with wet ice; Store at -20℃, valid for 6 months. Or store at 4℃, valid for 3 months.

Component

Component Number	Component	G1802-1ML	
G1802-1	PEI 40 K Transfection Reagent	1 mL	
Manual		1 pc	

Assay Protocol / Procedures

1. Preparation before transfection of adherent cells (6-well plate, reference table for other specifications):
A) The day before transfection, cells were appropriate to be uniformly planted in the pore plates at an appropriate density to converge to 70 – 85% upon formal transfection;
B） Before transfection, primary cell media was removed and washed 1-2 times with PBS before replacing 1.8 mL of base medium without serum or low serum (below 5%), or Opti-MEM; different cells had different serum dependence depending on the specific cell type;
C） The apped cells were placed in the incubator and preparation of transfection complexes was started.
2. Suspension cells were prepared before transfection:
A) On the day of transfection, an appropriate amount of cells were centrifuged to remove the medium and resuspended with basal medium without serum or low serum (below 5%);

B) The prepared suspension cells were placed in the incubator and started the preparation of transfection complexes, and the volume ratio between transfection complexes and medium could be made with reference to adherent cells for appropriate adjustments.
3. Transfection complexes were prepared:
A) Preparation liquid A: 100 μL of serum-free base medium and 2 μg of plasmid DNA, blowing and mixed;
B） Preparation of liquid B: 100 μL of base medium without serum and 6-8 μL PEI 40 K Transfection Reagent, blowing and mixing;
C） Solution B was added to liquid A, gently blown and mixed, and incubated at room temperature for 15 min to form a DNA-PEI transfection complex.
4. Transfected cells:
A) Add the transfection complex obtained in the previous step to the previously changed hole plate by crossing or surrounding the solution;
B) Shake the plate "8" or other way to be fully mixed and incubated in a 37°C, 5% CO2 incubator;
C) DNA-PEI transfection complexes with cells for 4 – 6 h showed better transfection efficiency, appropriate extension or overnight incubation and better transfection efficiency.

Note:
1. Please use healthy cells in good condition and recovered cells are recommended to be passaged at least 2 times before transfection.
2. Please use a high-quality, endotoxin-free, plasmid DNA.
3. For initial use, it is recommended that the product be dispensed to avoid repeated freezing and thawing.
4. High concentrations of serum at transfection, as well as the use of antibiotics, may affect cell status as well as transfection efficiency.
5. Different cell tolerance, sensitivity, length of transfection incubation time, and PEI / DNA usage ratio were adjusted as appropriate.
6. Please wear experimental suits and disposable gloves when operation.

Schedule: Use of transfection in different cell culture containers (for reference only)

Cultivate utensils	Growth area （cm2）	Number of inoculated cells	DNA content （μg）	PEI （μL）	Transfection complex volume （μL）	Total volume （mL）
96-well plates	0.3	(2-4)×104	0.1	0.3-0.4	10	0.1
24-well plates	1.9	(1.2-2.4)×105	0.5-1	1.5-4	50	0.5
12-well plates	3.8	(2.4-4.8)×105	1-2	3-8	100	1
6-well plates	9.5	(6-10)×105	2-4	6-16	200	2
10 cm culture dish	55	(4-6)×106	12-24	36-96	1000	12
T75 culture flask	75	(6-10)×106	18-36	54-144	1000	15

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