Polyethylenimine Linear (PEIl)MW40000(rapid lysis)

Product description

PEI 40000 is a highly charged cationic polymer with a molecular weight of 40,000 that binds negatively charged nucleic acid molecules very easily, forming a complex and allowing the complex to enter cells. PEI 40000 is a transient transfection reagent with low cytotoxicity, high transfection efficiency, and high gene expression efficiency in cells such as HEK293 and CHO.

PEI 40000 has many advantages over PEI 25000 Transfection Reagent. include:

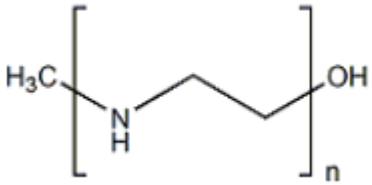
1 PEI40000 is easy to dissolve and can be directly dissolved in water. PEI 25000 needs to first adjust the water to weak acid to help it dissolve, and then use NaOH to adjust the pH to neutral.

2 PEI 40000 is easy to operate, easier to use, and has better transfection effect than PEI 25000.

3 PEI 25000 contains 4-11%propionyl residues, which can prevent the polymer backbone from binding to DNA. Compared to PEI 25000, PEI 40000 is a completely shed construction, so its performance is consistently efficient.

This product is an instant type, which dissolves quickly and is easy to prepare.

Specifications

Cat.No.	40816ES02 / 40816ES03 / 40816ES08
Size	100 mg / 1 g / 5×1 g
English Name	Polyethylenimine Linear (PEI)MW40000
CAS No.	49533-93-7
Molecular formula	$(CH_2CH_2NH)n$
Molecular weight	40,000
Solubility	Soluble in water,insoluble in organic solvents:benzene,ether and acetone
Structure	
Form	White or off-white solid
Serum Compatible	Yes
Cell Type	Established Cell Lines
Sample Type	Plasmid DNA
Transfection Technique	PEI-Based Transfection

Components

Name	40816ES02	40816ES03	40816ES08
Polyethylenimine Linear(PEI)MW40000(rapid lysis)	100 mg	1 g	5×1 g

Storage

This product should be stored at room temperature for 2 years. The stock solution is stored at 2-8 ℃ for 3 months.

Instructions

(Take the 6-well plate as an example)

1.Storage liquid configuration(1mg/mL)

1.1 Material

PEI 40000,Milli-Q°water/water for injection (WFl)or similar bio-grade water,1 mol/L sodium hydroxide (NaOH), disposable 0.1~0.2 μm PES vacuum sterile filter, sterile HDPE or poly acrylic storage bottle.

1.2 Configure the storage solution (1 mg/mL)

1.2.1 In a 1L glass beaker, add 1 g of PEl 40000 powder to 900 mL of Mill-Q ultrapure water or other equivalent biological water, stir evenly on a magnetic stirrer, and generate small vortices.

1.2.2 Wait until PEI 40000 is completely dissolved (usually less than 5 mins);

1.2.3 Add 1 mol/L sodium hydroxide solution dropwise while stirring to adjust the pH to 6.90~7.10.

【Note】 If the pH value is>7.10,please use hydrochloric acid to adjust the pH value to 6.90~7.10.

1.2.4 Transfer the solution to a graduated cylinder, and add water to make up to 1 L.

1.2.5 Filter and sterilize with a disposable 0.1~0.2 μm PES vacuum filter to obtain a stock solution of 1 mg/mL.

1.2.6 Aliquot as needed and store at 2-8 ℃,stable for 3 months.

2.Inoculate cells: In order to improve the transfection efficiency, it is recommended to inoculate cells one day before transfection, and the cell density should be 70%~80%.

3.Prepare DNA-PEI complexes: Prepare DNA-PEI nucleic acid-transfection reagent complexes according to the following system:

3.1 For each well of cells, dilute 2 μg of target DNA with 100 μl of serum-free medium, and mix thoroughly to form a DNA dilution solution.

【Note】 Opti-MEM or ddH2O is recommended for serum-freediluents.

3.2 Immediately add 4μlof PE140000 Transfection Reagent to 100 μL of DNA Diluent, vortex for 10 seconds, and mix well.

3.3 Incubate at room temperature for 10-15 mins to form a DNA-PEI cationic nucleic acid transfection reagent complex.

4.Transfect cells

4.1 During complex formation, remove cell growth medium and add 2 mL of fresh prewarmed complete medium to each well.

4.2 Add 100 μL of DNA-PEI nucleic acid-PEl complex directly to the cells, shake the culture plate, and mix gently.

4.3 Culture in a 37 ℃,5%COz incubator, and the expression of the transfected gene can be detected as soon as 5 hours after transfection. Please determine the appropriate detection time by yourself.

5.Steady transfer screening (optional)

24 h after transfection, cells were passaged into fresh growth medium(dilute cells more than 10-fold)and incubated overnight at 37 ℃in a 5%CO2 incubator. The screening drug matching the transfection resistance

gene was added the next day. Drug-resistant clones can be screened in about 1 to 2 weeks, and the growth medium containing the screened drugs needs to be changed frequently during this period.

The amount of transfection in different cell culture vessels (for reference only):

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Culture vessel	Surf,area per well*(cm^2)	DNA(μg)	Transfection reagent(μL)	Vol.of dilution medium**(μL)	Vol of plating medium
96-well	0.3	0.1	0.1	10	100μL
48-well	0.7	0.2	0.3	20	200μL
24-well	1.9	0.5	1	50	500μL
12-well	3.8	1	2	50	1 mL
6-well	10	2	4	100	2 mL
Flask 25cm^2	21	4	8	200	4 mL
Flask 75cm^2	58	10	20	500	10 mL

*.The surface area of cell culture plates provided by different manufacturers may vary.
**.Volume of medium used to dilute DNA.

Notes

1.For most cells,3.0 μL of PEI 40000 Transfection Reagent per 1 μg of DNA yields high transfection efficiencies. Also try to optimize using linear PEI 40000 transfection reagent in volumes of 1.5~4 μL per 1μg of DNA.

2.For your safety and health, please wear lab coats and disposable gloves for operation.

3.For research use only!

4.Milli-Q°is a trademark of Merck KGaA (Germany) or its subsidiaries.