DNA Transfection Reagent

Basic Information

Cat.No	Specification	Form	Storage Conditions	Shelf Life
RC0021	1ml	Liquid	2~8℃	12months

Product Information

This product is a high-performance DNA transfection reagent designed for the intracellular delivery of plasmid DNA and gene expression. Compared to other transfection reagents, it offers several significant advantages: serum resistance, low cytotoxicity, high stability, simple and easy-to-follow transfection procedures, and excellent reproducibility. These features make it an efficient and reliable tool for transfection experiments in various cell lines.

Application Scope

This product is suitable for transfecting plasmid DNA into a wide range of cell lines that are amenable to transfection, including transient transfections and the establishment of stable cell lines. It exhibits superior compatibility with various adherent cell lines, particularly the commonly used cell lines such as HeLa, 293T, COS7, CHO, and B16F10, where it can achieve high transfection efficiency and ensure stable and reproducible experimental outcomes.

Instructions for Use

Plasmid DNA Transfection Procedure (Example with 24-well plate):

1. Cell Seeding: Seed 0.5~1.0×10^5 cells per well, and culture for 12~24 hours to achieve a cell density of 60~70% confluence at the time of transfection.
2. Plasmid DNA Dilution: Dilute 0.5μg of plasmid DNA in Opti-MEM culture medium to a final volume of 10μL.
3. Transfection Reagent Dilution: Dilute 1μL of the transfection reagent in 9μL of Opti-MEM culture medium to a final volume of 10μL.
4. Complex Preparation: Mix the diluted plasmid DNA solution with the diluted transfection reagent solution, gently pipette to mix evenly, and let stand at room temperature for 10 minutes.
5. Transfection: Add the 20μL complex to the 24-well plate, gently pipette to mix evenly, and continue culturing for 18~48 hours before assessing transfection efficiency. There is no need to change the culture medium.

Optimization of Plasmid DNA Transfection

To achieve optimal transfection results, the transfection process can be optimized by adjusting the following parameters: cell density, DNA concentration, and transfection reagent concentration. When conducting optimization experiments, ensure that the cell confluence is above 60%, and the ratio of transfection reagent (μL) to DNA (μg) can be flexibly adjusted between 1:1 and 5:1 to find the most suitable transfection conditions for the target cell line.

Table.1 Reference Table for Transfection Reagent and DNA Usage in Different Culture Plates

Culture Plate	Single Well Area (cm^2)	Seeded Cell Number (cells)	Final Volume of Opti-MEM Dilution (μL)	Transfection Reagent Usage (μL)	DNA Usage (μg)
96-well	0.3cm^2	200μL	10μL	0.5μL	7.5μg
24-well	2.0cm^2	500μL	20μL	1.0μL	15μg
12-well	4.0cm^2	1mL	40μL	2.0μL	30μg
6-well	10.0cm^2	2mL	100μL	4.0μL	60μg
60mm	20.0cm^2	5mL	0.2μL	8.0μL	4.0μg
10cm	60.0cm^2	15mL	0.6μL	24.0μL	12.0μg

Precautions

1. Before using this product, please read this specification sheet carefully and strictly follow the recommended procedures to ensure optimal transfection results.
2. This product is intended for research use only and should not be used for clinical diagnosis or treatment or any other purposes.