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DNAfectin™ Plus

Store at 4°C

Cat. No.	Description	Quantity
G2500	DNAfectin™ Plus	1.0ml

Description

abm's DNAfectin™ Plus is a nanoparticle-based, nonliposomal formulation that enables the efficient transfection of plasmid DNA and short oligonucleotides into a broad range of cells with minimal cytotoxicity. This simple protocol does not require the removal of serum or culture medium, resulting in less variability and low risk of contamination. DNAfectin™ Plus has been shown to transfect a wide variety of primary, adherent and suspension cell lines with high efficiency.

Transfection Protocol

Use the following conditions as guidelines to transfect mammalian cells in a 6-well or 35mm dish format. For other culture vessels, please refer to Table 1.

1. ***Plating Cells:*** 18 to 24 hours prior to transfection, seed the cells at a density of 1-3 x 10^5 cells per well in 2.0ml of appropriate growth medium (complete with serum and antibiotics if normally used). Incubate the cells at 37˚C in a CO_2 incubator until the cells are 70% to 90% confluent at the time of transfection.

2. For each transfection sample, prepare the DNAfectin™ Plus-DNA complexes as follows:

   a) Add 2.0µg of DNA into 200µl of serum-free, antibiotic-free medium.
   b) Warm the DNAfectin™ Plus to room temperature and vortex gently before use.
   c) Add 6.0µl of the DNAfectin™ Plus into the DNA solution from step a). Pipette up and down gently several times to mix the solution completely.
   d) Incubate for 20 minutes at room temperature to form the DNAfectin™ Plus-DNA complexes. Complexes are stable at room temperature for 3-5 hours.

3. Transfer the DNAfectin™ Plus-DNA solution to the cultured cells drop-by-drop to different areas of the culture dish. Gently rock the culture vessel back-and-forth and side-to-side to evenly distribute the complexes.

4. Incubate for 12-16 hours. It is not necessary to change the culture medium after transfection with DNAfectin™ Plus, however, culture medium may be changed between 6-24 hours after transfection for sensitive cell lines.

5. Harvest cells and perform downstream analysis.

Optimizing Transfection for Specific Cell Lines

To achieve the maximum transfection efficiency and low cytotoxicity, optimize the transfection conditions by varying cell density along with DNA and DNAfectin™ Plus concentrations. Optimal results have been observed when cells are 80-90% confluent and DNA(µg): DNAfectin™ Plus (µl) ratios are 1:1 to 1:5.

Table 1: Reagent Quantities for Different Culture Vessels

Culture Vessel	Volume of plating medium per well	DNA(µg)	DNAfectin™ Plus (µl)	Transfection medium volume
24-well	500µl	0.2-0.4µg	0.6-1.2µl	50µl
12-well	1ml	0.5-0.8µg	1.5-2.5µl	100µl
6-well	2ml	1.0-2.0µg	3-6µl	200µl
35mm	2ml	1.0-2.0µg	3-6µl	200µl
60mm	5ml	3.0-6.0µg	10-20µl	300µl
10cm	10ml	8.0-16.0µg	25-50µl	500µl