Chemi - Trans™ FectinBor DNA Transfection Reagent

（Cat #: T007, T008）

Introduction:

The Chemi - Trans™ FectinBor DNA Transfection Reagent is an innovative biodegradable nanoparticle -based in vitro DNA delivery tool, which provides a more powerful transfection efficiency on a variety of commonly used and hard-to-transfect mammalian cells, such as adherent and suspension cells, as well as primary cells, but with less cytotoxicity in comparison with other lipid-base transfection reagent as known in the market.

Advantages:

❖ Robust transfection efficiency and low cytotoxicity.
❖ Excellent for some primary cell lines, such primary fibroblast cells, primary schwann cells,macrophage cells and BV-2 cells.
❖ Compatible with serum and antibiotics in culture medium.

Table 1: Product Package & Storage

Cat #	Product Name	Volume	Storage
T007	Chemi -Trans™ FectinBor DNA Transfection Reagent	200 μL	2 ~ 8 °C,stable for up to 12 months when stored appropriately. (DO NOT FREEZE.)
T008		1.0 mL	

Important Guidelines for Transfection:

(1) For a robust transfection efficiency, the plasmid DNA must be preserved in ddH_2O, but not in the buffer (such as TE buffer). Otherwise, the efficiency will decline at least 70%, even fail to transfect completely.
(2) For a successful transfection, the Endotoxin-free plasmid is a must.
(3) It is strictly prohibited to dilute both the Chemi - Trans™ FectinBor DNA Transfection Reagent and the plasmid by Serum-free medium or dilution buffer in preparation of the transfection complexes, just to mix the Chemi - Trans™ Reagent and Endotoxin-free plasmid DNA directly as the ratio of 1:1.

Standard Protocol for DNA Transfection of Adherent Cells

Step Ⅰ. Cell Seeding:

Cells should be plated 18 to 24 hours prior to transfection so that the monolayer cell density reaches to 60 ~ 80% confluency at the time of transfection. Complete culture medium with serum and antibiotics is freshly added to each well 30 ~ 60 min before transfection.

Step Ⅱ. DNA Transfection Protocol

Use the following procedure to transfect DNA into mammalian cells in a 24-well format. For other formats, please refer to ***A Guideline for DNA transfection (Table 2).*** All amounts and volumes are given on a per well basis. For each transfection sample, prepare complexes as follows:

For Research Use Only. Not for use in diagnostic procedures.

a. Thaw a certain amount of Endotoxin-free plasmid DNA and Chemi - Trans™ FectinBor Reagent based on the experimental. Vortex to mix each solution gently but thoroughly.

b. Add 1.5 μL Chemi - Trans™ FectinBor Reagent to 1.5 μg Endotoxin-free plasmid DNA solution directly, without any dilution before use, **as the ratio of 1:1** at once. mix by pipetting up and down for 15 times. Incubate for 10 minutes at room temperature to let transfection complex form well and ensure that there is no residual droplet on the tube-wall.

c. Add the well-prepared DNA transfection complex (**at Step b**) to 0.3 mL complete growth medium containing cells, serum and antibiotics each well. Mix gently by rocking the plate back and forth.

d. Incubate the transfected cells at 37°C in a CO_2 incubator for 24 to 72 hours. Then, to measure the gene expression by qRT-PCR and Western Blotting respectively.

Table 2: A Guideline for DNA transfection per cell culture vessel

Culture Vessel	Growth Medium (mL)	Amount of Plating Cells	DNA (μg)	Chemi - Trans™ FectinBor Reagent (μL)
	Volume used per well			
96-well	0.1	$1 \sim 4 \times 10^4$	0.75	0.75
24-well	0.3	$0.5 \sim 2 \times 10^5$	1.5	1.5
12-well	0.6	$1 \sim 4 \times 10^5$	3.0	3.0
6-well	1.2	$0.25 \sim 1 \times 10^6$	6.0	6.0

*****[1] We strongly suggest that keep the concentration of plasmid DNA be 100 ng ~ 2 μg/μL, and the Endotoxin-free plasmid is extremely important for a successful transfection, and the plasmid DNA should be preserved in DNase -free ddH_2O properly.

[2] For optimal Transfection efficiency, we recommend using 1.5 ~ 5.0 μg DNA. As a starting point, we recommend using 1.5 μg DNA which usually gives satisfactory transfection result for most adherent cell lines or primary cells. For hard-to transfection cells, we recommend using a final DNA volume of 2.0 ~ 5.0 μg, and keep a 1:1 ratio of the plasmid DNA and Chemi - TransTM FectinBor Reagent. The above conditions are given per well in a 24-well plate.

[3] You may perform a rapid 96-well plate transfections by plating cells directly into the transfection complexes. Prepare complexes in the plate and directly add cells drop wise at twice the cell density as in the basic protocol in the complete growth medium. Cells will adhere as usual in the presence of complexes.