Cat # SL100499 Store at 4 °C

GenJet™ Plus In Vitro DNA Transfection Reagent

----- A Protocol for generation of Lentivirus from 293T cell

- ☐ 100 µl
- ☐ 500 µl
- ☐ 1000 µl

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This product is for laboratory research ONLY and not for diagnostic use

Introduction:

GenJet™ Plus In Vitro DNA Tranfection Reagent is upgraded version of GenJet™ In Vitro DNA Tranfection Reagent. With a new chemistry, more DNA condensing groups were released in the new version compared with old version GenJet™, leading to 3~20 times more efficient in DAN delivery. GenJet™ Plus was shown to generate lentivirus with extremelt high titers from 293T cells.

Important Transfection Guidelines:

- Do NOT follow transfection procedures for GenJet old version. Read protocol for new version carefully before transfection
- For high efficiency, transfect cells at high density. 90% cell confluency is highly recommended
- To lower cytotoxicity, transfect cells in presence of serum (10%) and antibiotics
- Change medium with serum (10%) and antibiotics 5 hours post transfection is optional

Procedures for Transfecting 293T Cells:

Cell Seeding (see Table 1):

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

Note: High serum levels (>5%) with antibiotics usually do not have inhibitory effect on transfection efficiency. For some specific 293 cells, maximal transfection efficiencies are observed in the presence of serum and antibiotics. We recommend using complete serum/antibiotics-containing medium initially.

Table 1. A Guideline for Seeding Adherent Cells Prior to Transfection in Different Culture Formats.

Culture Dishes	Surface Area (cm2)	Number of Cells to Seed
T75 Flask	75	3.0 - 6.0 x 10^6
100 mm Dish	58	2.2 - 4.4 x 10^6
60 mm Dish	21	0.9 - 1.8 x 10^6
35 mm Dish	9.6	3.5 - 7.0 x 10^5
6-well Plate	9.6	4.0 - 8.0 x 10^5
12-well Plate	3.5	1.5 - 3.0 x 10^5
24-well Plate	1.9	0.8 - 1.6 x 10^5
48-well Plate	1.0	4.0 - 8.0 x 10^4
96-well Plate	0.3	1.2 - 2.4 x 10^4

Preparation of GenJet™ Plus-DNA Complex and Transfection Procedures

The following protocol is given for transfection in 15 cm dish. For other culture formats, scale up or down per culture dish's surface. The optimal transfection conditions are given in the standard protocol described below.

- Cell confluency should be ~80 % at the day of transfection
- For each 15 cm dish, add 18 mL of complete medium with serum and antibiotics freshly ~60 min before transfection.
- For each dish, dilute total 18 µg of DNA (9.0 µg lenti-vector plasmid plus 9.0 µg lentivirus packaging mix - psPAX2 6.0 µg plus pMD2.G 3.0 µg) into 1000 µL of serum-free DMEM with High Glucose. Vortex gently to mix.
  Note: Never use Opti-MEM to dilute DNA and GenJet™ Plus reagent because it will disrupt transfection complex.
- Add 54 µL GenJet™ Plus Reagent into the above viral plasmid-containing serum-free DMEM with High Glucose. Vortex gently to mix. **(Important: do not mix the solutions in the reverse order !)**
- Incubate the transfection mix for 10 min at room temperature to allow GenJet™-DNA complexes to form.
  Note: Never keep the DNA/GenJet™ Plus complex longer than 30 minutes
- Add the 1000 µL GenJet™/DNA complex drop-wise onto the medium in each dish and homogenize the mixture by gently swirling the plate.
- Change medium 24 hrs post transfection followed by harvesting lentivirus from supernatant 48 hrs and 72 hrs post transfection.

Storage: GenJet™ Plus DAN In Vitro Transfection Reagent is stable for up to 12 months at +4 °C. This item shipped at ambient temperature