Cat # SL100489-JURKAT Store at 4 °C

# GenJet™ In Vitro DNA Transfection Reagent for Jurkat Cell

----- A General Protocol for Transfecting plasmid DNA to Jurkat 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™ In Vitro DNA Tranfection Reagent (Ver. II) 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 DNA delivery. GenJet™ (Ver. II) for Jurkat cell was formulated and pre-optimized specifically for transfecting Jurkat cells.

**Important Guidelines for Transfection:**

- Maintain the same seeding conditions between experiments. Use low-passage cells and make sure that cells are healthy and greater than 90% viable before transfection.
- For maximum transfection efficiency, we recommend using GenJet™ Transfection Buffer (1x ) to dilute plasmid DNA and GenJet™ Reagent.

**Standard Transfection of Jurkat Cell**

**Step I. Preparation of Working Solution of GenJet™ Transfection Buffer:**

GenJet™ Transfection Buffer (5x ) is provided as 5x concentrated stock solution. To make working solution, dilute one part of the stock solution with 4 parts of $ddH_2O$ into a sterile bottle. The working solution is table at 4 °C~RT for 12 months.

**Step II. Transfection of Jurkat Cells:**

Use this procedure to transfect plasmid DNA into Jurkat cells in a 24-well format. For other formats, see **Scaling Up or Down Transfections** below. All amounts and volumes are given on a per well basis.

- The day of transfection, count the cells to determine culture density. Plate $1x10^5$ cells per well in 0.5 ml of complete growth medium. Cell density should be ~70% confluent on the day of transfection.

  **Note:** GenJet™ reagent is NOT interfered by serum and antibiotics, therefore serum and antibiotic containing medium can be used during the entire experiment.
- For each well of cells to be transfected, dilute 0.5 µg plasmid DNA with 50 µl working solution of GenJet™ transfection buffer prepared from **Step I**. Pipette up and down to mix.
- Add 1.5 µl of GenJet™ Reagent directly to the diluted plasmid DNA solution followed by mix gently and incubate for ~15 minutes at RT.

  **Note: Never keep the complex longer than 30 minutes.**
- Add the 50 µl transfection mix to the cells drop wise. Gently rock the plate back and forth and return the plate to CO2 incubator.
- Replace transfection medium by cell growth medium ~5 hours after transfection when necessary.
- Transgene expression is usually measured 24~48 hours post transfection.

**Storage:** GenJet™ Transfection Reagent is stable for up to 12 months at 4 °C. This item shipped at ambient temperature

**Scaling Up or Down Transfections**

To transfect Jurkat cells in different tissue culture formats, refer to the table below (Given on a per well basis).

| Culture Vessel | Growth Medium (µl) | Cells per Well | Transfection Buffer (µL) | Plasmid DNA (µg) | GenJet™ Reagent (µL) |
|---|---|---|---|---|---|
| 96-well | 100 | $2 \times 10^4$ | 10 | 0.1 | 0.3 |
| 24-well | 500 | $1 \times 10^5$ | 50 | 0.5 | 1.5 |
| 12-well | 1.0 | $2 \times 10^5$ | 75 | 1.0 | 3.0 |
| 6-well | 2.0 | $5 \times 10^5$ | 100 | 2.0 | 6.0 |
| 60 mm | 4.0 | $8 \times 10^5$ | 300 | 5.0 | 15 |
| 10 cm/T-75 lask | 8.0 | $2 \times 10^6$ | 800 | 9.0 | 27 |