Cat # SL100468 Store at 4 °C

LipoJet™ DNA In Vitro Transfection Reagent

----- A Protocol for Transfections of Mammalian Cell

- ☐ 100 µl
- ☐ 500 µl
- ☐ 1000 µl

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

Introduction:

Based on our innovative and proprietary lipid-conjugation technology and formulation, LipoJet™ is formulated to be the most powerful tool for in vitro DNA delivery with less cytotoxicity. LipoJet™ was shown to deliver genes to various established cell lines as well as primary cells (refer to ***Table 1***).

Features:

- Superior efficiency
- Top choice for difficult-to-transfect cells
- Best for broad mammalian cells
- Very low cytotoxicity

Quick Protocol:

Step 1: 1x10^5 cells are seeded in 24-well plate in 1 ml of appropriate growth medium containing serum and antibiotics on the day before transfection. Incubate the cells at 37 ^{0}C and 5 % CO_2. The plate should be 60~80% confluent on the day of transfection. One hour before transfection, the serum-containing medium is replaced with 300 µl Opti™-Medium (Invitrogen®) or DMEM serum-free medium.

Step 2: For each well of 24-well plate, dilute 0.5 µg of DNA in 50 µl of serum free DMEM medium. Vortex and spin down to mix. Then dilute LipoJet™ 1.5 µl to 50 µl serum-free DMEM medium. Vortex and spin down to mix. Mix the diluted DNA and LipoJet™ reagent immediately by 10 minutes incubation at room temperature to allow generation of DNA complex.

Step 3: Add the mixture of LipoJet™/DNA complex directly to the cell growth medium. Incubate at 37 ^{0}C and 5% CO_2 for 4 hours.

Step 4: Replace the DNA containing medium with fresh cell growth medium with 10 % FBS and incubate at 37 ^{0}C and 5 % CO_2 for additional 24 hours or 48~72 hours as needed.

Step 5: Depending on the cell type and promoter activity. The assay for the reporter gene can be performed 24~72 hours following transfection.

Note:
1. The above transfection protocol is for 24-well plate. Other dish types refer to ***Table 3****.*
2. The protocol is optimized for adherent cell lines tested. To achieve the highest efficiency for specific cell(s), more optimization may be necessary.
3. The major factors for transfection optimization include DNA quantity and DNA/LipoJet ratio.

Quick Reference:

Table 1: Major Transfected Cell Types

Hela	HEK293	MDCK
HepG2	COS-1	MDA231
PC-12	CHO	COS-7
B16	CV1	MA10
BHK-21	NIH-3T3	AtT-20

Table 2: Volume of Transfection Reagents

DNA (µg)	DNA diluent DMEM (µl)	LipoJet™(µl)
0.5	50	1.5
1	50	3
2	100	6
4	200	12
8	400	24

Table 3: Transfection Volume and DNA Amount for Culture Dishes

Culture Dish	DNA (µg)	Transfection Volume (ml)
96-well	0.1~0.4	0.15
24-well	0.5~1.5	0.4
6-well	2~5	1.2
60 mm	5~8	3
100 mm	8~12	6

Note: The data from above tables are for reference only. Actual amount can be adjusted for optimization according to experimental conditions.

Storage: Upon arrival store this product at 4 ^{0}C. If stored properly, the product is stable for 18 months or longer. Product shipped at ambient temperature.