Lipomaster 3000 Transfection Reagent

TL301

Version 23.1

Product Description

Lipomaster 3000 Transfection Reagent is a liposome-mediated transfection reagent. It is applicable for plasmid DNA and RNA transfection of various adherent or suspension cells. With a clear structure, Lipomaster 3000 Reagent can achieve efficient and highly reproducible cell transfection. T3000 Enhancer Reagent, as a transfection reagent enhancer, can assist DNA to enter the nucleus quickly. The combination of two reagents can achieve higher transfection efficiency for large fragment plasmids and difficult-to-transfect cells. Lipomaster 3000 Transfection Reagent has the excellent ability to form liposome/nucleic acid complexes and rapid release of nucleic acid transfected into cells, which ensures excellent transfection performance and extremely low cytotoxicity. The presence of serum and antibiotics does not affect its transfection effect, so the formed liposome/nucleic acid complex can be directly added to the complete medium.

Components

Components	TL301-01	TL301-02
Lipomaster 3000 Reagent	1.5 ml	3 × 1.5 ml
T3000 Enhancer Reagent	1.5 ml	3 × 1.5 ml

Storage

Store at 2 ~ 8°C. Adjust the shipping method according to the destination.

▲ Please invert this product upside down several times to mix thoroughly before each use. Do not freeze.

Applications

It is applicable for most eukaryotic cells: HCT116, Raw264.7, A549, Jurkat, HeLa, MDCK, NIH3T3, MDA-MB-231, Vero, H9C2, C2C12, COS7, Huh7, etc.

Notes

For research use only. Not for use in diagnostic procedures.

1. Cell density varies greatly with cell lines, and cell density directly determines transfection efficiency. Therefore, please try to keep the same inoculum ratio during the transfection process to improve the repeatability of the experiment.
2. Most mammalian cells should be cultured at 37°C and 5% CO_2. Other cell lines, such as insect cells, require culture at different temperatures and CO_2 concentrations. Please select the optimal culture conditions based on your specific cell line.
3. When preparing transfection complexes, it is required to dilute the nucleic acids and transfection reagents in serum-free medium. This will prevent serum from interfering with the formation of Lipomaster 3000 Reagent/nucleic acid complexes.
4. Cell transfection experiments need to be performed gently. During the dilution process of transfection reagent and nucleic acid, please use a pipette to mix gently or flick the bottom of the centrifuge tube with your fingers to mix. Do not vortex.
5. Use high-purity, sterile, endotoxin-free DNA helps achieve higher transfection efficiency.
6. Please note that T3000 Enhancer Reagent needs to be added dropwise into the Opti-MEM solution of diluted DNA. Then add the diluted DNA/T3000 Enhancer Reagent/Opti-MEM mixture to the Lipomaster 3000 Reagent/Opti-MEM mixture. Mix gently to form complexes.

Experiment Process

◇ Transient transfection of cells (take 24-well plate transfection as an example)

Cell inoculation

1. Subculture the cells about 24 h before transfection, and inoculate at a density of about 0.5 - 2 × 10^5 cells/well.
2. Perform transfection when cells reach 70% - 90% confluent.

Formation of Lipomaster 3000 Reagent/DNA/T3000 Enhancer Reagent complexs

1. Add 25 μl opti-MEM medium and 1.5 μl Lipomaster 3000 Reagent to a 1.5 ml sterile centrifuge tube, then mix gently with a pipette.
2. Add 25 μl Opti-MEM medium and 0.5 μg DNA to a 1.5 ml sterile centrifuge tube, and mix gently with a pipette. Then add 1 μl T3000 Enhancer Reagent to the DNA/Opti-MEM mixture and mix gently again.
3. Add DNA/T3000 Enhancer Reagent/Opti-MEM mixture to Lipomaster 3000 Reagent/Opti-MEM mixture, mix gently with a pipette. Let it stand at room temperature for 10 min before transfection.

Transfection

1. Add the Lipomaster 3000 Reagent/DNA/T3000 Enhancer Reagent complex to the culture medium, then shake the petri dish gently to disperse it evenly.
   ▲ For special cases, the fresh serum-containing medium can be replaced before transfection to prevent cell death caused by excessive cell density and insufficient nutrition during the culture period.
2. Overnight incubation for 24 - 48 h.
   ▲ If the fresh culture medium needs to be replaced after transfection, please replace it after 6 to 12 h of adding transfection complexes.
3. Harvest cells for subsequent experiments.

◇Transfection system adjustment

Table 1. Recommended initial transfection conditions for different culture systems

Culture System	Complete Growth Media	Serum-free Media	DNA Transfection			siRNA Transfection	
			Lipomaster 3000 Reagent	T3000 Enhancer Reagent	Plasmid	Lipomaster 3000 Reagent	siRNA
96-well Plate	100 μl	10 μl	0.15 μl, 0.3 μl	0.2 μl	0.1 μg	0.3 μl	3 pmol
24-well Plate	500 μl	50 μl	0.75 μl, 1.5 μl	1.0 μl	0.5 μg	1.5 μl	15 pmol
6-well Plate	2.0 ml	250 μl	3.75 μl, 7.5 μl	5.0 μl	2.5 μg	7.5 μl	75 pmol
6 cm Dish	5.0 ml	500 μl	8.25 μl, 16.5 μl	11 - 22 μl	5.5 - 11 μg	17 μl	166 pmol
10 cm Dish	10.0 ml	1.0 ml	21.7 μl, 43.4 μl	28 - 56 μl	14 - 28 μg	43 μl	434 pmol

▲To transfect cells with siRNA, follow the protocol as described for DNA. Please do not add T3000 Enhancer Reagent when diluting the siRNA.
▲To transfect cells with mRNA, follow the protocol as described for DNA. Please do not add T3000 Enhancer Reagent when diluting the mRNA.
▲The above protocol is for reference only and can be optimized according to the specific situation.