LAMDA BIOTECH

PRODUCT INFORMATION

Catalog No.: TS318

Product Name: **LipoMaxin**

Size: 1.5ml (0.75ml A: Transfection Reagent + 0.75ml B: Enhancer Reagent)

Description: **LipoMaxin** is a lipid-based transfection reagent that forms complex with DNA or RNA. The complex can be transfected into a variety of adherent and suspension cell lines. This reagent delivers superior transfection efficiency and improved cell viability for a wide range of hard-to-transfect and common cells. **LipoMaxin** has been compared to the Lipofectamine® 3000 Transfection Reagent and shows the similar efficiency in many cell lines. **LipoMaxin** can be used for the transfection of both DNA and RNA into eukaryotic cells even in the presence of serum in the culture media.

Feature:

- *Superior transfection efficiency for a broad range of cell lines, including hard-to-transfect cells.*
- *No requirement of removal of serum from culture medium.*
- *No requirement for washing or changing of medium after transfection.*
- *Low cytotoxicity.*

Storage: **Store at 4°C.**

Protocols

DNA Transfection:

The following protocol is for transfection of DNA into mammalian cells in a 24-well format. For other formats, see the section of **Scaling Up or Down Transfection**. All amounts and volumes are given on a per well basis. For most cell lines, prepare the complexes using a 1:2 to 1:3 ratio of DNA (µg) to LipoMaxin (µl). Transfection at a high cell density may result higher efficiency, higher expression levels, and minimal cytotoxicity. Optimization may be necessary for different cell lines (see **Optimizing DNA Transfection**).

1. **For Adherent cells:** One day before transfection, plate 0.5-2 x 10^5 cells in 500µl of growth medium without antibiotics so that cells will be 70-90% confluent at the time of transfection. **For Suspension cells:** Just prior to preparing complexes, plate 4-8 x 10^5 cells in 500µl of growth medium without antibiotics.

2. For each transfection, prepare the complexes as follows:

   a. Prepare two new/sterile microtubes, mark them **Tube A** and **Tube B**.
   b. To the Tube A, dilute 1µl of LipoMaxin in 25µl of Opti-MEM® I Medium. **Note:** Before use, mix well but gently for the LipoMaxin Transfecition Reagent (**Component A**).
   c. To the Tube B, add 0.5µg DNA per well in 25µl of Opti-MEM® I Reduced Serum Medium without serum (or other medium without serum). Then, add 1µl of Enhancer Reagent (**Component B**). Mix well gently.
   d. Transfer the whole content in the Tube B, i.e., the mixture of DNA/medium/Enhancer Reagent to Tube A containing the diluted LipoMaxin (the final total volume is 50µl). Mix gently and incubate the combined mixture for another 15 minutes at room temperature.

3. Add the 50µl of the **DNA-LipoMaxin Complex** to each well containing cells and medium. Mix gently by rocking the plate back and forth a few times.

4. Incubate the cells at 37°C in a CO_2 incubator for 2-4 days before doing downstream assays. Medium may be changed after 4-6 hours of transfection.

Optimizing Transfection: To obtain the highest transfection efficiency and low cytotoxicity, optimize transfection conditions by varying cell density as well as DNA and LipoMaxin Reagent concentrations. Make sure that cells are greater than 90% confluent and vary the ratio of DNA(µg) to LipoMaxin Reagent(µl) and Enhancer Reagent(µl). For example, use the ratios ranging in 1/1/2 and 1/4/2 for DNA(µg), LipoMaxin Component A(µl) and Component B(µl).

Scaling Up or Down Transfection

To transfect cells in different tissue culture formats, vary the amounts of the transfection reagent, nucleic acid, cell volume and medium used in proportion to the relative surface area, as shown in the table below. With automated, high-throughput systems, a transfection complex solution volume of 50µl is recommended for transfections in the 96-well plates. **Note:** You may perform rapid 96-well plate transfections by plating cells directly into the transfection mix. Prepare complexes in the plate and directly add cells at twice the cell density as in the basic protocol. Cells will adhere as usual in the presence of complexes.

Culture vessel	Surface area (cm^2)	Medium volume	Transfection complex volume	**DNA transfection**		
				DNA	LipoMaxin Component **A**	LipoMaxin Component **B**
96-well	0.3	100µl	2 × 5µl	0.1µg	0.15-0.3µl	0.2µl
24-well	2	500µl	2 × 25µl	0.5µg	0.75-1.5µl	1.0µl
12-well	4	1ml	2 × 50µl	1.0µg	1.5-3.0µl	2.0µl
6-well	10	2ml	2 × 150µl	2.5µg	3.75-7.5µl	5.0µl

This product is for research use only.