SuLiTran Transfection Reagent Application Guide

Package Content and Storage Conditions

SKU	Components	Storage Condition	Shipping Condition
TT000020	1 vial of SuLiTran Transfection Reagent, 0.25 ml	+4℃	Room temperature
TT000020L	1 vial of SuLiTran Transfection Reagent, 0.5 ml	+4℃	Room temperature

NOTE: FOR RESEARCH PURPOSES ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USAGE.

Related Products

Expression Plasmid Human,Mouse,Rat
shRNA
siRNA
CRISPR

Introduction

SuLiTran is an efficient and versatile reagent for gene delivery that can be used for in vitro transfections. It is a novel and efficient cationic polymer reagent, making it an excellent choice of transfection reagent for broad cell spectrum. It is suitable for cell transfection of most types of cells, showing greater advantages for difficult-to-transfect cells Cell lines that have been successfully transfected include: HEK293、293T、293E、COS-7、HeLa、HepG2、A549、Vero、MEF、Caco2、LM3、MCF-7、MDA-MB-231、NCI-H1975、NIH-3T3、BHK、PC12、Raw264.7、H9c2、Hepa1-6、MCF10A、CHO、5-8F、BV-2、3t3、H520、SW480、CHO-DG44、HUVEC、C6、HaCaT、N2A、SGC-7901、H9、MKN-28、Hep3B、SMCC7721、RKO、C2C12、 DF-1、LMH、 DEF、PK-1、PK-15…

The major advantages of SuLiTran include:

1) The cytotoxicity is low. No need to change culture medium after transfection. Replacement with fresh medium after transfection 4-6 hours is also fine.

2) Maintain high transfection efficiency for high-density cells. It also could have high transfection efficiency when the cell density is more than 90%. High-density cell transfection is beneficial to increase the over expression of target protein, increase the detection signal and reduce cytotoxicity

3) Serum does not affect the transfection efficiency. Transfection complexes can be added directly to complete culture medium,

Experimental Procedures

Important Guidelines

① Transfection complexes must be made in serum-free medium and can be directly to cells in culture medium. Serum may effect complex formation.

② Maintain high transfection efficiency for high-density cells. It is recommended that the cell density can be >90%, which is beneficial to obtain higher protein expression

③ Antibiotics can be used when plating, but should be removed by changing the medium during transfection

④ Using high-purity DNA or RNA could help to achieve high transfection efficiency. Endotoxin have great

No.168 Mashan Meiliang Road Binhu District,Wuxi,Jiangsu Province,China

influence on transfection rate.

⑤ Store at 4℃.Do not freeze. Avoid repeated or prolonged opening

⑥ For most cell types, the optimal ratio of SuLiTran（uL）: DNA（ug）is around 3:1~2:1 (uL:ug). In order to achieve the highest transfection efficiency and reduce the effect of cytotoxicity, the ratio of DNA to SuLiTran and cell density can be optimized, generally in the range of 1:0.5~1:5 to optimize DNA (μg) and SuLiTran (μl).

A General Protocol for DNA Transfection

A sample protocol is listed here for experiments performed **in 24-well plates**. If performing experiments in other cell culture plates, simply multiply the suggested quantities by the relative surface area of your plate.

Step I. Cell Seeding:

① Adherent cells: plated 2-8×10^5 cells with 500 μl antibiotic-free medium. Cells should be plated 18 to 24 hours prior to transfection so that the monolayer cell density reaches to the optimal 80-100%confluency at the time of transfection.

② Suspension cell: Before preparing and adding the DNA-SuLiTran complex, incubate 4-10×10^5 cells with 500 μl of antibiotic-free medium.

Step Ⅱ. Transfection

For most cell types, the optimal ratio of SuLiTran (uL) : DNA (ug) is around 3:1~2:1 (uL:ug). In order to achieve the highest transfection efficiency and reduce the effect of cytotoxicity, the ratio of DNA to SuLiTran and cell density can be optimized, generally in the range of 1:0.5~1:5 to optimize DNA (μg) and SuLiTran (μl).

The following protocol is for transfection in 24-well plates, refer to **Table 1** for transfection in other culture formats.

① **Diluted DNA**: For each well, dilute 0.5 μg of DNA into 50 μl of serum-free DMEM/Opti-MEM I Reduced Serum Medium. Gently pipette up and down or vortex briefly to mix.

② **Diluted SuLiTran**: Add 0.6- 2.5 μl of SuLiTran reagent into50 μl of serum-free DMEM /Opti-MEM I Reduced Serum Medium. Gently pipette up and down or vortex briefly to mix. keep at room temperature for 2-5 minutes. (Diluted SuLiTran need be mixed with diluted DNA within 30 minutes. Long incubation time will reduce activity)

Note: If DMEM is used as a diluent for SuLiTran, it must be mixed with the diluted DNA within 5 minutes.

③ **Add diluted DNA to diluted SuLiTran reagent (1:1 ratio)**. Gently pipette up and down or vortex briefly to mix. Incubate for 20 minutes at room temperature to allow transfection complexes to form. DNA-SuLiTran complexes are stable for 5 hours at room temperature.

④ **Incubate:** Add the 100 μL mixture prepared in step③ drop-wise onto cells. Gently rock the plate back and-forth and from side-to-side to distribute the complex evenly. Incubate cells at 37℃.

Note:

If serum-free conditional transfection is required, replace the serum-containing medium with serum-free medium before adding the complex.

No need to remove complexes or change media. If necessary, the growth medium can be changed at 4-6h after transfection

⑤ **Analyze transfected cell:** Check transfection efficiency 18 to 72 hours post transfection

Table 1. Recommended Amounts for Different Culture Plates

Culture Dish	Shared reagents		DNA		RNAi	
	Total Culture Media	transfection complexes	DNA	SuLiTran	RNAi	SuLiTran
96-well	100 µL	2×25 µL	0.1 µg	0.2-0.5 µL	5 pmol	0.25 µL
24-well	500 µL	2×50 µL	0.5 µg	0.6-2.5µL	20 pmol	1.0 µL
12-well	1 mL	2×100 µL	1 µg	2-4.5 µL	40 pmol	2.0 µL
6-well	2 mL	2×250 µL	2-4 µg	5-10 µL	100 pmol	5 µL
60-mm	5 mL	2×0.5 mL	4-8 µg	10-20 µL	200 pmol	10 µL
10-cm	15 mL	2×1.5 mL	12-24µg	30-60 µL	600 pmol	30 µL