

Altogen Biosystems

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Fibroblast Transfection Protocol

Kit for Fibroblast Cell Lines and Primary Fibroblasts

Catalog No. 1755 Size: 0.5 ml

Catalog No. 1756 Size: 1.5 ml

Catalog No. 1757 Size: 8.0 ml

Contents and Shipping:

Fibroblast Transfection Kit includes Fibroblast Transfection Reagent (0.5 ml / 1.5 ml / 8.0 ml), Transfection Enhancer (0.5 ml), and Complex Condenser (0.5 ml). Fibroblast Transfection Reagent is supplied in liquid form at a concentration of 0.25 mg/ml, shipped at ambient temperature.

Description:

Cationic lipid based reagent is a proprietary formulation optimized for transfection of DNA and RNA into Fibroblast cells.

Product Qualification:

Fibroblast Transfection Reagent is tested functionally by transfection of Fibroblast cells with a small interfering RNAs targeting 3 different genes (Lamin A/C, GAPDH, Cyclophilin B). Transfection Reagent is tested for absence of nuclease contamination and microbial contamination.

Storage:

Store reagent at 4°C upon receipt. If stored properly, reagent is stable for 12 months.

Intended Use:

For *in vitro* use only.

Safety Data Sheet (SDS):

SDS documents are available online at <https://altogen.com>

***In Vivo* Transfection Kits (for compound testing in rodents):**

- Catalog #5010 / 5011 / 5012 - Lipid *In Vivo* Transfection Kit
- Catalog #5020 / 5021 / 5022 - Polymer *In Vivo* Transfection Kit
- Catalog #5030 / 5031 / 5032 - Nanoparticle *In Vivo* Transfection Kit
- Catalog #5040 / 5041 / 5042 - PEG-Liposome *In Vivo* Transfection Kit
- Catalog #5050 / 5051 / 5052 - Pancreas *In Vivo* Transfection Kit
- Catalog #5060 / 5061 / 5062 - Liver *In Vivo* Transfection Kit
- Catalog #5070 / 5071 / 5072 - Kidney *In Vivo* Transfection Kit

Transfection Controls and Recommended Products:

- Catalog #4060 - GFP-expressing plasmid DNA (25 ug)
- Catalog #4061 - Cell Cycle Arrest siRNA (5 nmol)
- Catalog #4062 - Apoptosis Inducing siRNA (5 nmol)

To Place an Order:

Both domestic (USA) and international orders can be placed online (<https://altogen.com>) using credit card payment. Purchase Order (PO) can be faxed at (702) 989-0841 (for USA only).

Transfection Resource: altogen.com/transfection-resource

Altogen Labs. GLP Compliant Pre-clinical CRO Laboratory Services:

AltogenLabs.com

Recommended Transfection Protocols (for 24-well plate):

Fibroblast Standard Transfection Protocol (24-well plate):	Fibroblast Reverse Transfection Protocol (24-well plate):
<ol style="list-style-type: none"> 1. Plate 7,500 - 12,000 Fibroblast cells per well in 0.5 ml of complete growth medium 12–24 hours prior to transfection 2. Wash with 1xPBS and add 0.5 ml of fresh growth medium 3. Prepare transfection complexes by mixing 40 µl of serum-free medium, 5.5 µl of transfection reagent, and <ul style="list-style-type: none"> • 750 ng DNA (or mRNA), or • 30 nM - 50 nM of siRNA (or microRNA) <i>*Referred to a final volume including growth medium</i> 4. Incubate transfection complexes at RT for 15 - 30 minutes 5. <u>Optional</u>: Add 2 µl of Complex Condenser. This reagent reduces the size of transfection complex, therefore increasing transfection efficiency; however it may increase cell toxicity 6. Add prepared transfection complexes to 0.5 ml of complete growth medium with Fibroblast cells (from step 2) 7. Incubate cells at 37°C in a humidified CO₂ incubator 8. Assay for phenotype or target gene expression 48 - 72 hours after transfection 	<ol style="list-style-type: none"> 1. Prepare Fibroblast cell suspension: <ol style="list-style-type: none"> a. Trypsinize cells (0.05% Trypsin) for 3-5 minutes at 37°C b. Dilute in complete growth medium to 5 x 10⁴ cells/ml 2. Prepare transfection complexes by mixing 40 µl of serum-free medium, 5.5 µl of transfection reagent, and <ul style="list-style-type: none"> • 750 ng DNA (or mRNA), or • 30 nM - 50 nM of siRNA (or microRNA) <i>*Referred to a final volume including growth medium</i> 3. Incubate transfection complexes at RT for 15 - 30 minutes 4. <u>Optional</u>: Add 2 µl of Complex Condenser. This reagent reduces the size of transfection complex, therefore increasing transfection efficiency; however it may increase cell toxicity 5. Plate 15,000 - 25,000 cells per well in 0.5 ml of complete growth medium (from step #1) into culture plate 6. Add prepared transfection complexes (from step 3 or 4) 7. Incubate cells at 37°C in a humidified CO₂ incubator 8. Assay for phenotype or target gene expression 48 - 72 hours after transfection
<u>Optional</u> : Transfection efficiency can be increased by addition of Transfection Enhancer reagent. Add 2 µl of Transfection Enhancer reagent 12-24 hours after transfection	<u>Optional</u> : Transfection efficiency can be increased by addition of Transfection Enhancer reagent. Add 2 µl of Transfection Enhancer reagent 12-24 hours after transfection
If the viability of Fibroblast cells being transfected is affected at 16 - 24 hours post-transfection, the level of cytotoxicity can be decreased by changing the growth medium and eliminating redundant exposure of cells to transfectant	If the viability of Fibroblast cells being transfected is affected at 16 - 24 hours post-transfection, the level of cytotoxicity can be decreased by changing the growth medium and eliminating redundant exposure of cells to transfectant

Scaling Up or Down Transfections:

Culture Vessel Surface Area (cm ²)	Volume of Growth Medium (ml)	Transfection Reagent (µl)	Complex Condenser (µl)	Transfection Enhancer (µl)
96-well, 0.3 cm x cm	0.12	1.5	0.3	0.3
24-well, 2 cm x cm	0.5	5.5	2	2
12-well, 4 cm x cm	1	12	4	4
6-well, 10 cm x cm	3	35	12	12
60-mm, 20 cm x cm	5	60	20	20
10-cm, 60 cm x cm	15	180	60	60

Optimizing Transfection:

To obtain the highest transfection efficiency, optimize transfection conditions by varying Fibroblast cell density and amount of transfection reagent. High passage of Fibroblast cells and use of antibiotics (or growth factors) may require using larger volumes of Fibroblast transfection reagent per reaction.

Limited Use Label License:

The purchase of this product conveys to the purchaser the limited right to use the purchased amount of the product only to perform internal research for the sole benefit of the purchaser. This product is for research purposes only and is not for use in commercial applications of any kind. For information on obtaining additional rights, please contact Altogen Biosystems at orders@altogen.com.

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