

## Altogen Biosystems

848 Rainbow Blvd Suite 823

Las Vegas, NV 89107 USA

Tel. (702) 349-6103

Fax. (702) 989-0841

E-mail: [techserv@altogen.com](mailto:techserv@altogen.com)

Web: [www.altogen.com](http://www.altogen.com)

### AltoFect Transfection Protocol (kit for primary cell types)

**Catalog No. 3001**    Size: 0.5 ml

**Catalog No. 3002**    Size: 1.5 ml

**Catalog No. 3003**    Size: 8.0 ml

#### Contents and Shipping:

AltoFect Transfection Kit includes AltoFect™ Transfection Reagent (0.5 ml / 1.5 ml / 8.0 ml), Transfection Enhancer (0.5 ml), and Complex Condenser (0.5 ml). AltoFect™ Transfection Reagent is supplied in liquid form at a concentration of 1 mg/ml, shipped at ambient temperature.

#### Description:

Two component liposome-based proprietary formulation optimized for primary cell types and difficult-to-transfect cancer cell lines.

#### Product Qualification:

AltoFect™ Transfection Reagent is tested functionally by transfection of primary mouse fibroblast cells with a small interfering RNAs targeting 3 different genes (Lamin A/C, GAPDH, Cyclophilin B). 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](http://altogen.com/transfection-resource)

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

[AltogenLabs.com](http://AltogenLabs.com)

## Recommended Transfection Protocols (for 24-well plate):

AltoFect Standard Transfection Protocol (24-well plate):	AltoFect Reverse Transfection Protocol (24-well plate):
<ol style="list-style-type: none"> <li>1. Plate 10,000 - 15,000 cells per well in 0.5 ml of complete growth medium 12–24 hours prior to transfection</li> <li>2. Wash with 1xPBS and add 0.5 ml of fresh growth medium</li> <li>3. Prepare transfection complexes by mixing 40 µl of serum-free medium, 2 µl of transfection reagent, and <ul style="list-style-type: none"> <li>• 1 µg DNA (or mRNA), or</li> <li>• 30 nM of siRNA (or microRNA)</li> </ul> <i>*Referred to a final volume including growth medium</i> </li> <li>4. Incubate transfection complexes at RT for 15 - 20 minutes</li> <li>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</li> <li>6. Add prepared transfection complexes to 0.5 ml of complete growth medium with cultured cells (from step 2)</li> <li>7. Incubate cells at 37°C in a humidified CO<sub>2</sub> incubator</li> <li>8. Assay for phenotype or target gene expression 48 - 72 hours after transfection</li> </ol>	<ol style="list-style-type: none"> <li>1. Prepare cell suspension: <ol style="list-style-type: none"> <li>a. Trypsinize cells (0.05% Trypsin) for 3-5 minutes at 37°C</li> <li>b. Dilute in complete growth medium to 5 x 10<sup>4</sup> cells/ml</li> </ol> </li> <li>2. Prepare transfection complexes by mixing 40 µl of serum-free medium, 2 µl of transfection reagent, and <ul style="list-style-type: none"> <li>• 1 µg DNA (or mRNA), or</li> <li>• 30 nM of siRNA (or microRNA)</li> </ul> <i>*Referred to a final volume including growth medium</i> </li> <li>3. Incubate transfection complexes at RT for 15 - 20 minutes</li> <li>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</li> <li>5. Plate 20,000 - 30,000 cells per well in 0.5 ml of complete growth medium (from step #1) into culture plate</li> <li>6. Add prepared transfection complexes (from step 3 or 4)</li> <li>7. Incubate cells at 37°C in a humidified CO<sub>2</sub> incubator</li> <li>8. Assay for phenotype or target gene expression 48 - 72 hours after transfection</li> </ol>
<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 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 transfection complexes	If the viability of 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 transfection complexes

## Scaling Up or Down Transfections:

Culture Vessel Surface Area (cm <sup>2</sup> )	Volume of Growth Medium (ml)	Transfection Reagent (µl)	Complex Condenser (µl)	Transfection Enhancer (µl)
96-well, 0.3 cm x cm	0.12	0.7	0.3	0.3
24-well, 2 cm x cm	0.5	2	2	2
12-well, 4 cm x cm	1	4.5	4	4
6-well, 10 cm x cm	3	14	12	12
60-mm, 20 cm x cm	5	25	20	20
10-cm, 60 cm x cm	15	70	60	60

## Optimizing Transfection:

To obtain the highest transfection efficiency, optimize transfection conditions by varying cell density and amount of transfection reagent. High passage cells and use of antibiotics (or growth factors) may require using larger volumes of AltoFect™ 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](mailto:orders@altogen.com).

### Limited Product Warranty:

This warranty limits our liability to replacement of this product. No other warranties of any kind, express or implied, including, without limitation, implied warranties of merchantability or fitness for a particular purpose, are provided by Altogen Biosystems. Altogen Biosystems shall have no liability for any direct, indirect, consequential, or incidental damages arising out of the use, the results of use, or the inability to use this product. This product is developed, manufactured and sold for research purposes only. Reagent is not suitable for administration to humans.