

Altogen Biosystems

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IRR-MRC5 Transfection Protocol (Kit for Irradiated Fibroblast Cells, 55-X)

Catalog No. 6833 Size: 0.5 ml

Catalog No. 6834 Size: 1.5 ml

Catalog No. 7050 Size: 8.0 ml

Contents and Shipping:

IRR-MRC5 Transfection Kit includes IRR-MRC5 Transfection Reagent (0.5 ml / 1.5 ml / 8.0 ml), Transfection Enhancer (0.5 ml), and Complex Condenser (0.5 ml). IRR-MRC5 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 IRR-MRC5 cells.

Product Qualification:

IRR-MRC5 Transfection Reagent is tested functionally by transfection of IRR-MRC5 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):

IRR-MRC5 Standard Transfection Protocol (24-well plate):	IRR-MRC5 Reverse Transfection Protocol (24-well plate):
<ol style="list-style-type: none"> 1. Plate 7,500 - 12,000 IRR-MRC5 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 IRR-MRC5 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 IRR-MRC5 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
<p><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</p>	<p><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</p>
<p>If the viability of IRR-MRC5 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</p>	<p>If the viability of IRR-MRC5 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</p>

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 IRR-MRC5 cell density and amount of transfection reagent. High passage of IRR-MRC5 cells and use of antibiotics (or growth factors) may require using larger volumes of IRR-MRC5 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.

Limited Product Warranty:

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