



PRODUCT INFORMATION

DNAfectamine

Product information for DNAF001:

Description

DNAfectamine Transfection Reagent comprises of four unique formulations of polycations and liposomes, which will guarantee high transfection efficiency and low cytotoxicity for any cell type including primary cells.

Application

Transfection of DNA into cultured eukaryotic cells.

Kit Contents

1ml at 1.0mg/1.0ml

Storage

Store at 4°C. Do not freeze.

Note

Please check our Transfection Cell Database for tested cell lines.

Transfection Protocol

Use the following conditions as guidelines to transfect mammalian cells in a 6-well or 35mm dish format. For other culture vessels, please refer to Table 1.

1. Adherent Cells: 18 to 24 hours prior to transfection, seed cells at a density of $1-3 \times 10^5$ cells per well in 2.0ml of appropriate growth medium (with serum and antibiotics if cells are cultured in the presence of them). Incubate the cells at 37°C in a CO₂ incubator until cells are 70% to 90% confluent at the time of transfection.
2. For each transfection sample, prepare the complexes as follows:
Solution A: Dilute 2.0µg of DNA into 100µl of serum-free, antibiotic-free medium.
Solution B: Vortex DNAfectamine reagent thoroughly prior use, then dilute 10-20 µl of DNAfectamine reagent in 100µl serum-free, antibiotic-free medium.

Incubate Solution A and B at room temperature for 5 minutes.

3. Combine the solutions, mix gently to ensure uniform distribution and incubate for 20 minutes at room temperature.

NOTE: Complexes are stable at room temperature for 3-5 hours.

4. Add 0.2ml of the DNAfectamine solution from step 4 into each well containing cells in 0.8ml



serum-free, antibiotic-free medium.

5. After 12-16 hours (overnight), change to complete medium.
6. To make stable cell lines: Passage cells at a 1:10 (or higher dilution) into fresh growth medium 24 hours post transfection. Selection medium can be added the following day if desired.

Optimizing Transfection for Specific Cell Lines

To achieve the maximum transfection efficiency and low cytotoxicity, optimize the transfection conditions by varying cell density along with DNA and Transfection Reagent concentrations. Optimal results have been observed when cells were 80-90% confluent and DNA(μ g): Transfection Reagent (μ l) ratios were 1:1 to 1:5.

Table 1: Reagent Quantities for Different Culture Vessels

Culture Vessel	Volume of plating medium	DNA(μ g) in medium volume (μ l)	DNAfectamine in medium volume	Transfection medium vol.
24-well	500 μ l	0.2-0.4 μ g in 25 μ l	2-4 μ l in 25 μ l	0.4ml
12-well	1ml	0.5-0.8 μ g in 100 μ l	5-8 μ l in 100 μ l	0.6ml
6-well	2ml	1.0-2.0 μ g in 100 μ l	10-20 μ l in 100 μ l	0.8ml
35mm	2ml	1.0-2.0 μ g in 100 μ l	10-20 μ l in 100 μ l	0.8ml
60mm	5ml	3.0-6.0 μ g in 500 μ l	30-75 μ l in 500 μ l	2.4ml
10-cm	10ml	8.0-16.0 μ g in 1.5 ml	90-200 μ l in 800 μ l	6.4ml

Transfection Database

Our Transfection Cell Database contains data from transduction results from cell lines tested. This is a continuing effort and more cell lines will be added to the database once the data is available. Please search our database below for specific details.

Cell Line	Cell Line Species/Tissue	Nucleic Acid	Reagent	Transfection Type	Transfection Efficiency(%)
293T	Human Embryonic Kidney	DNA	DNAF001 Transfection Reagent	Transient	100%
Jurkat	Human T Lymphoma	DNA	DNAF001 Transfection Reagent	Transient	25%
SHEP	Human Neuroblastoma	DNA	DNAF001 Transfection Reagent	Transient	90%
BOSC23	Human Kidney	DNA	DNAF001 Transfection Reagent	Transient	90%
HT1080	Human Fibrosarcoma	DNA	DNAF001 Transfection Reagent	Transient	80%
C33A	Human Cervical Carcinoma	DNA	DNAF001 Transfection Reagent	Transient	90%
MRC5	Human Primary Fibroblast	DNA	DNAF001 Transfection Reagent	Transient	80%



MDK-Telo	Dog Kidney Cells+Telo	DNA	DNAF001 Transfection Reagent	Transient	80%
B16	Murine Melanoma	DNA	DNAF001 Transfection Reagent	Transient	80%
CB3	Mouse Erythroleukemia	DNA	DNAF001 Transfection Reagent	Transient	25%
HuVEC	Human Umbilical Vein	DNA	DNAF001 Transfection Reagent	Transient	20%
HepG2	Human Liver Carcinoma	DNA	DNAF001 Transfection Reagent	Transient	40%
MMRU	Human Melanoma	DNA	DNAF001 Transfection Reagent	Transient	75%
MMAN	Human Melanoma	DNA	DNAF001 Transfection Reagent	Transient	80%
MDA-MB-231	Human Breast Carcinoma	DNA	DNAF001 Transfection Reagent	Transient	85%
HeLa	Human Cervical Carcinoma	DNA	DNAF001 Transfection Reagent	Transient	80%-90%
A2780	Human Ovarian Carcinoma	DNA	DNAF001 Transfection Reagent	Transient	70%-75%
L6	Rat Myoblast	DNA	DNAF001 Transfection Reagent	Transient	60%-70%
Rabbit-telo	Telomerase-Rabbit Cells	DNA	DNAF001 Transfection Reagent	Transient	50%
USO2 (T-USO2)	Human Osteosarcoma (tet-inducible)	DNA	DNAF001 Transfection Reagent	Transient	80%-90%

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