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Enhance your cancer research

The Invitrogen™ Lipofectamine™ 3000 Transfection Reagent leverages our most advanced lipid nanoparticle technology to enable superior transfection performance and reproducible results. It delivers exceptional transfection efficiency into a wide range of difficult-to-transfect and common cancer cell lines (Figure 1) with improved cell viability.

- Superior performance—highest efficiency into the broadest spectrum of difficult-to-transfect and common cancer cell lines
- Improved cell viability—gentle on your cells, with low toxicity
- Versatility—single kit for DNA, RNA, and cotransfection

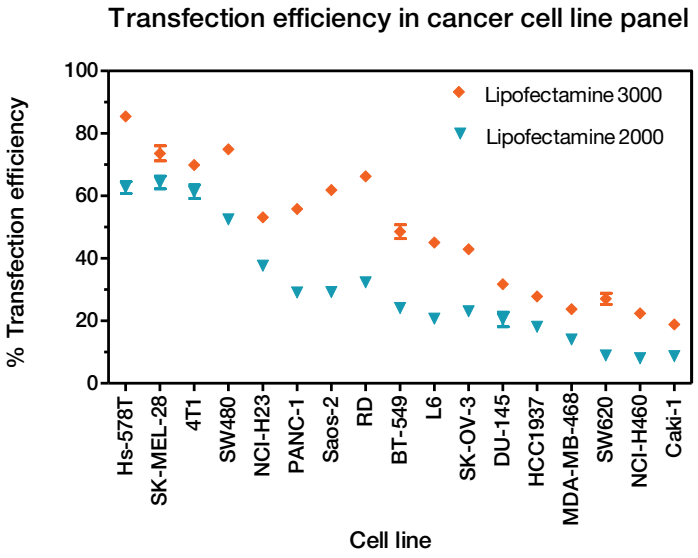

Figure 1. Invitrogen™ Lipofectamine™ 2000 Transfection Reagent and Lipofectamine 3000 reagent were used to transfect 17 cancer cell lines with a GFP-expressing plasmid in a 24-well plate format, using 0.5 µg plasmid/well and the recommended protocols for each reagent. GFP expression was analyzed 48 hr posttransfection. Each condition was tested in triplicate, and the data points show the mean transfection efficiency + SD.

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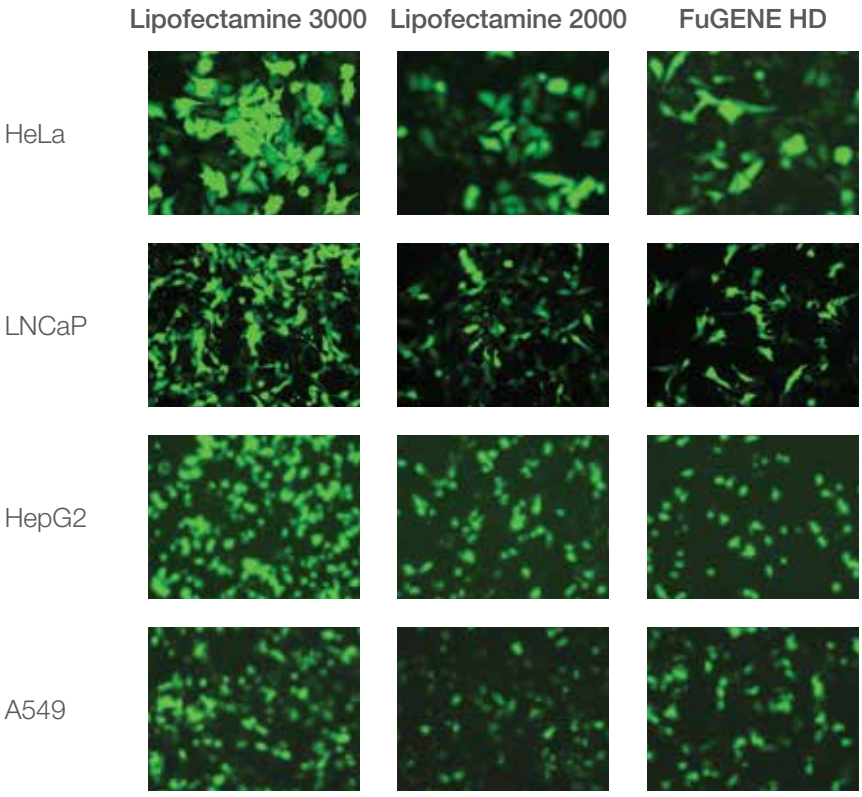

Figure 2. Enhanced transfection efficiency using Lipofectamine 3000 reagent. Different cancer cell lines were transfected with a GFP reporter vector using the indicated transfection reagents.

Table 1. Lipofectamine 3000 reagent yields higher transfection efficiencies than Lipofectamine 2000 reagent when tested in cancer cell lines.

Cell type	Lipofectamine 3000 reagent transfection efficiency	Fold protein expression improvement, Lipofectamine 3000 vs. 2000 reagent	Cancer cell line origin
4T1	■■■□	2	Mouse breast tumor
A431	■□□□	2	Human epidermoid carcinoma
A549	■■■□	3	Human lung cancer
ACHN	■■□□	2	Human renal cancer
bEnd.3	■□□□	9	Human brain endothelioma
BT-549	■■■□	4	Human breast cancer
C2C12	■■■□	3	Mouse myoblast
C6	■■□□	5	Cancer stem-line
Caco-2	■■■□	2	Human colon carcinoma
COLO 205	■□□□	4	Human colon cancer
DU 145	■■□□	2	Human prostate cancer
H460	■■■□	3	Human lung cancer
HCC1937	■□□□	5	Human breast cancer
HCT116	■■■■	1	Human colon carcinoma
HeLa	■■■■	3	Human cervical cancer
Hep-3B	■■■□	2	Human liver cancer
Hepa 1-6	■■■□	1	Mouse liver cancer

Table 1. cont.

Cell type	Lipofectamine 3000 reagent transfection efficiency	Fold protein expression improvement, Lipofectamine 3000 vs. 2000 reagent	Cancer cell line origin
HepG2	■■■■	9	Human liver cancer
Hs 578T	■■■■	3	Human breast cancer
cHT29	■□□□	1	Human colon cancer
Huh-7	■■■□	4	Human hepatoma
Jurkat	■□□□	1	Human t lymphocyte
K-562	■■□□	1	Human myelogenous leukemia
L929	■□□□	2	Mouse fibrosarcoma cell line
LNCaP	■■■■	6	Human prostate cancer
MCF7	■■□□	2	Human breast cancer
MDA-MB-231	■■■□	3	Human breast cancer
MDA-MB-435	■■■□	1	Human breast cancer
MDA-MB-468	■□□□	9	Human breast cancer
Neuro-2a	■■■■	1	Mouse neuroblastoma
NCI-H23	■■■□	2	Human lung adenocarcinoma
NCI-H460	■□□□	17	Human lung cancer
P19	■■□□	1	Mouse embryonal carcinoma (ec)
PANC-1	■■■□	3	Human epithelioid carcinoma
PC12	■■■□	2	Rat pheochromocytoma
RBL-2H3	■□□□	2	Rat basophil leukemia
RD	■■■□	4	Human rhabdomyosarcoma
Saos-2	■■■□	4	Human osteosarcoma
SH-SY5Y	■□□□	1	Human neuroblastoma
SK-BR-3	■■■□	4	Human breast cancer
SK-MEL-28	■■■□	2	Human melanoma
SK-N-SH	■■□□	6	Human neuroblastoma
SK-OV-3	■■□□	3	Human ovarian carcinoma
SW480	■■■□	2	Human colon cancer
SW620	■□□□	5	Human colon cancer
T98G	■■■□	4	Human glioblastoma

Transfection efficiency (%): <30% ■□□□ 30–50% ■■□□ 51–79% ■■■□ >80% ■■■■

"We were very happy and surprised to see Lipofectamine 3000 reagent provide a more than 10-fold difference in transfection efficiency in our difficult-to-transfect cell line. There was even a reduction in cell death. Awesome results!"

– Rui Eduardo Castro, PhD, University of Lisbon

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