Polyplus transfection®

THE DELIVERY EXPERTS

jetPRIME®

DNA &/or siRNA Transfection Reagent

- **Powerful**
- **Economical: low amounts of nucleic acid & reagent**
- **Gentle to cells**
- **Versatile (DNA & siRNA)**
- **Convenient protocol**

jetPRIME® is a new versatile and powerful DNA and siRNA transfection reagent for day-to-day experiments. **jetPRIME®** ensures high DNA transfection efficiency and excellent gene silencing in a variety of adherent cells. **jetPRIME®** is ideal for DNA/siRNA co-transfection. **jetPRIME®** is very gentle to cells since it requires low amounts of nucleic acid and reagent during transfection. Effective and nontoxic DNA and siRNA delivery is essential for reliable scientific results.

Superior DNA transfection efficiency

Superior transfection efficiencies ranging between 70 and 90% are obtained when using **jetPRIME®** reagent versus the top competitor's reagent for several commonly used cell lines (Fig. 1-2).

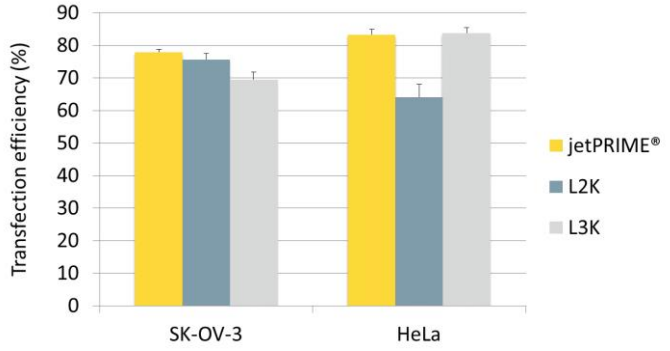

Fig. 1. Transfection efficiency assessed by FACS analysis in various cell lines 24 h following transfection in 24-well plates according to the manufacturer's recommendation for competitors L2K and L3K and 0.5 µg plasmid, 1 µl reagent per well for jetPRIME®.

Many other cell lines of various origins, as well as primary cells, are transfected with unusually high percentages (Table 1).

Cell types	Cell lines	Description	Transfection efficiency
Epithelial	B16-F10	Murine melanoma	70-80%
	BNL-Cl2	Murine normal embryonic hepatocyte	50-60%
	CaCO2	Human colon carcinoma epithelial	20%
	CHO-K1	Chinese hamster ovary	70%
	HCT-116	Human colon carcinoma	70%
	HeLa	Human cervix epitheloid carcinoma	70-90%
	HepG2	Human hepatocarcinoma	50-70%
	Huh-7	Human hepatocarcinoma	30-50%
	MCF-7	Human breast adenocarcinoma	50%
	MCF-10A	Human breast adenocarcinoma	40-50%
	MDCK	Canine kidney epithelial	20%
	PC-3	Human prostate carcinoma	70%
	Vero	African green monkey kidney	50%
Fibroblast	COS-7	African green monkey kidney	60-80%
	HEK-293	Human embryonic kidney fibroblast	80-90%
	MRC-5	Human lung fibroblast	50%
	NIH-3T3	Murine embryonic fibroblast	50-70%
Myeloblast	Raw 264.7	Murine monocyte/macrophage	40-50%
Myoblast	C2C12	Murine myoblast	70-90%
Neuronal	SH-SY5Y	Human neuroblastoma	70-80%
Primary Hepatocytes		Human primary hepatocyte cell	20-30%
Primary Melanocytes		Human primary melanocyte cell	40-50%

Table 1. Transfection efficiency of various cell types using jetPRIME®. The percentage of GFP-positive cells was determined by FACS analysis 24 h after transfection.

Economical: less reagent and less DNA

jetPRIME® is such a powerful *in vitro* transfection reagent that it only requires a small amount of reagent and plasmid DNA (Table 2), making it very economical.

6-well plate			
Reagent	Volume of Reagent per well	Amount of DNA per well	Number of transfections per 1.5 ml vial
jetPRIME®	**2 - 4 µl**	**1 - 2 µg**	**375 - 750**
L2K	5 - 12.5 µl	2.5 µg	120 - 300
L3K	3.75 - 7.5 µl	2.5 µg	200 - 400

Table 2. Amounts of reagent and DNA (jetPRIME® and competitors) added per well in 6-well plate for transfection according to manufacturers' recommendations.

In addition to reducing costs, using less DNA also minimizes adverse cytotoxic effects triggered by transfection. Hence, **jetPRIME®** is the reagent of choice for high transfection efficiency with excellent cell viability.

Polyplus transfection®

THE DELIVERY EXPERTS

jetPRIME®

DNA &/or siRNA Transfection Reagent

Better cell viability

jetPRIME® is extremely gentle to cells during transfection leading to increased cell viability (Fig. 2) and improved transfection results. Cells transfected with **jetPRIME®** are healthy, while major cytotoxicity is observed with competitor.

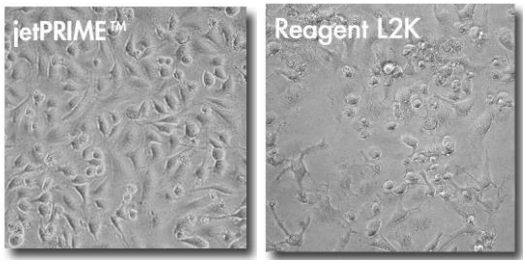

Fig. 2. Phase contrast microscopy of HeLa cells 24 h after transfections performed according to the manufacturer's recommendations for each reagent.

Co-transfection of DNA & siRNA

jetPRIME® can be used for DNA and siRNA co-transfection experiments. It shows highly efficient gene silencing in a variety of cell lines with very low toxicity. Over 90% silencing is achieved in adherent cells, using 10 nM siRNA (Fig. 3).

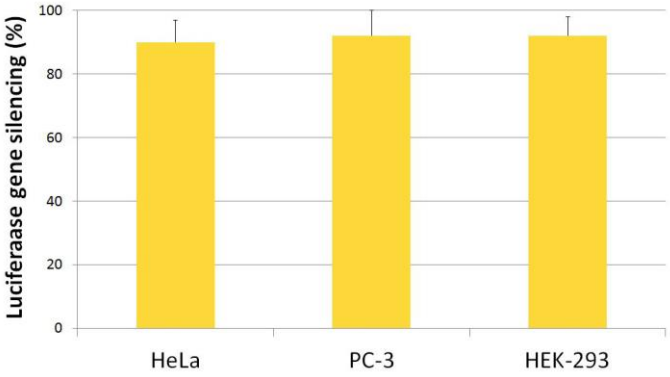

Fig. 3. Exogenous luciferase gene silencing in several cell lines after DNA & siRNA co-transfection using jetPRIME® performed with 400 ng pCMV-Luc and 10 nM of siRNA anti-Luc per well in 6-well plates.

LISTE DES PRODUITS

Référence	Désignation
POL101000027	jetPRIME® 0.1 mL
POL101000015	jetPRIME® 0.75 mL
POL101000046	jetPRIME® 1.5 mL
POL101000001	jetPRIME® 5 x 1.5 mL
POL201000003	jetPRIME® buffer 60 ml

1.5 ml of **jetPRIME®** transfection reagent is sufficient to perform ca. 375 transfections in 6-well plates.
Bulk quantities are available upon request.

Excellent gene silencing

jetPRIME® leads to over 90% knock-down of endogenous gene expression in a variety of cell lines. For example, jetPRIME®-mediated transfection of 10 nM siRNA duplexes targeting endogenous lamin A/C in HeLa cells drastically reduces gene expression to barely detectable level (Fig. 4).

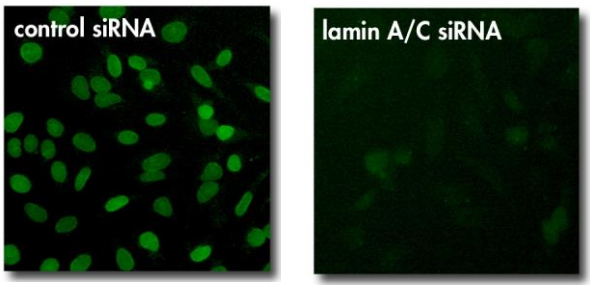

Fig. 4. Endogenous lamin A/C silencing using jetPRIME®. HeLa cells were transfected with 10 nM of 21-mer siRNA duplexes matching the lamin A/C sequence. After 48 h, lamin A/C silencing efficiency was determined by immunofluorescence microscopy using an antibody against lamin A/C.

Convenient protocol

jetPRIME® is an easy-to-use transfection reagent (Fig. 5):

- Fast and easy to scale up and down
- Compatible with serum and antibiotics

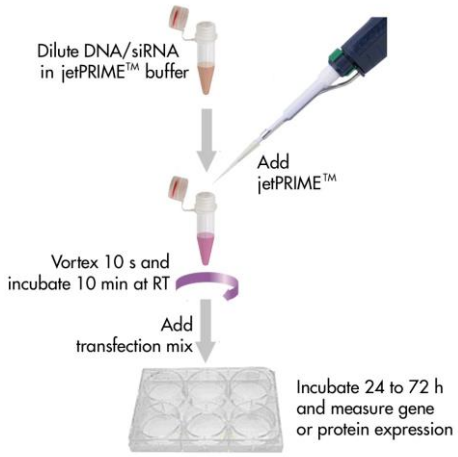

Fig. 5. jetPRIME® convenient protocol for DNA, siRNA and co-transfection of DNA and siRNA.

Cell Transfection Database

Made in FRANCE

OZYME
Des femmes et des hommes au service de vos recherches

NOUS CONTACTER
Service client - commande : commande@ozyme.fr
Service technique :
Réactifs : tech@ozyme.fr
Instrumentation : instrum@ozyme.fr