

# jetPEI®

## Robust Transfection Reagent for Automated or Manual High Throughput Screening



### Product Information

High-Throughput Screening (HTS) is widely used in pharmaceutical industry and basic and translational research to study biological processes. HTS bioassays are almost exclusively conducted in the microtiter plate formats (96, 384 or 1536 wells), which makes the use of a highly reproducible transfection reagent indispensable.

jetPEI® transfection reagent is a linear polyethylenimine derivative, free of components of animal origin, ideal for automated or manual High Throughput Screening in adherent and suspension cells. Three protocols are available: reverse, batch, and forward.

### Benefits

- **Versatile:** Well-suited for adherent and suspension cells
- **Efficient:** Fast methods to transfect cells for HTS
- **Robust:** Exceptionally reproducible results
- **Flexible:** Reverse, batch, and forward protocols available

# Introduction

## Relevant Applications

- Plasmid transfection
- High Throughput Screening (HTS)

## Relevant Process Steps

- Robust transfection reagent for automated or manual High Throughput Screening

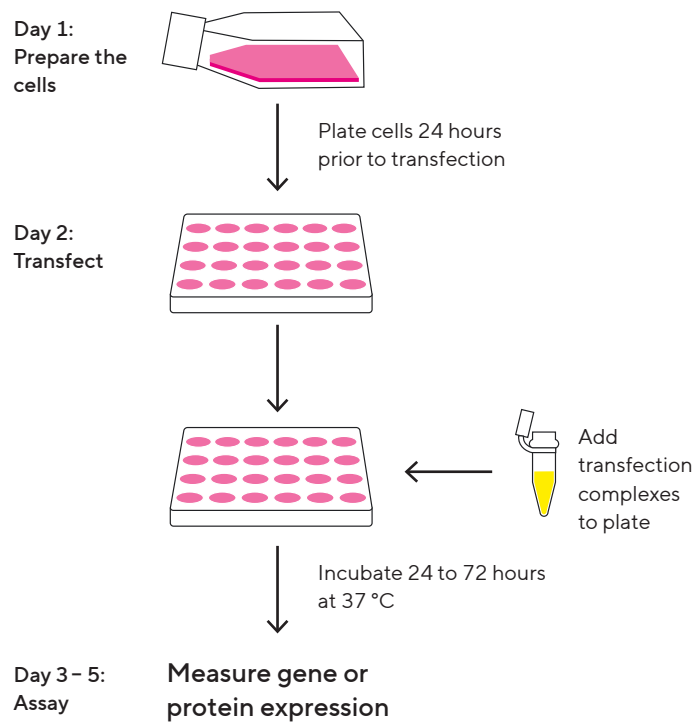
## Technical Specifications

Molecule delivered	DNA
Cell Types	Adherent and suspension cells
Number of transfections	1 mL of jetPEI® is sufficient to perform up to 2,000 transfections in 96-well plates
Storage	Store jetPEI® at 5 °C ± 3 °C Expiry date is indicated in the certificate of analysis and on the product
Provided with	150 mM NaCl solution for complex formation

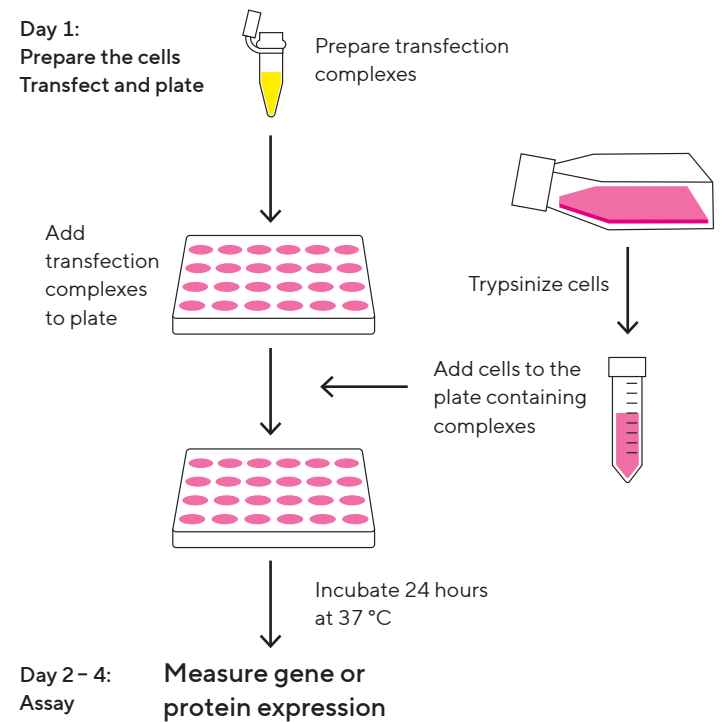
## Capabilities

### ▪ Three Protocols to Suit Your Application

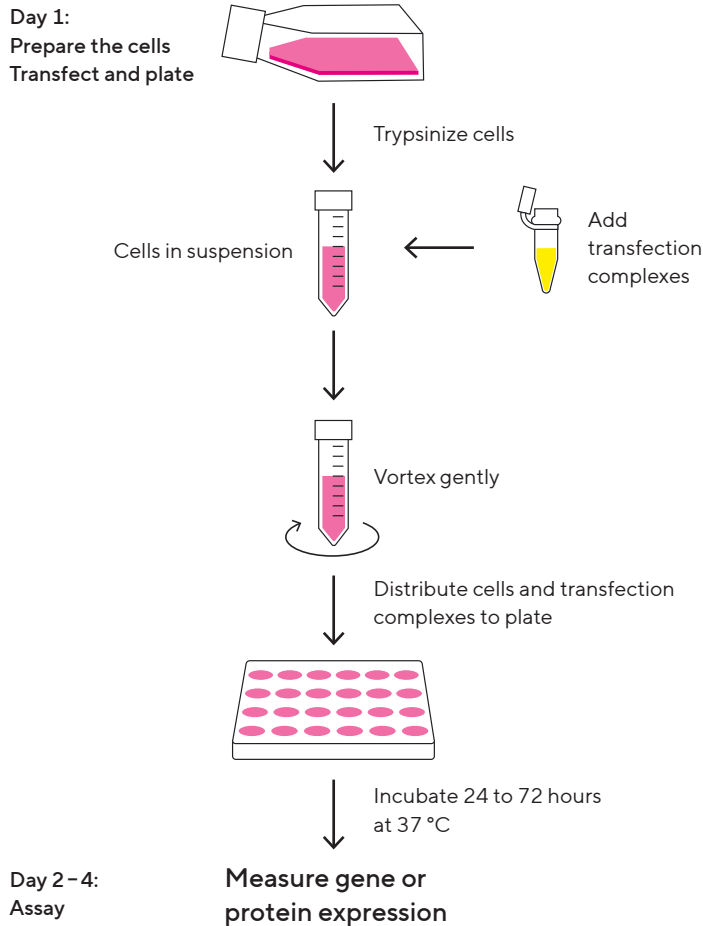
In the **forward protocol**, the cells are split the day before transfection and the jetPEI®/DNA complexes are added to the adherent or suspension.



The **reverse protocol** is the most appropriate when transfecting a pool of genes, such as a DNA library. In this protocol, the jetPEI®/DNA complexes are prepared or deposited in the wells prior to addition of the cells. Complexes are stable for up to 4 hours.



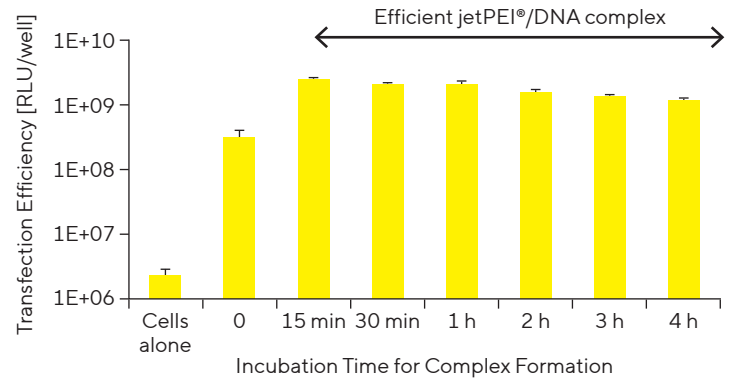
The **batch protocol** has been developed to prepare a homogeneous pool of transfected cells. For this purpose, the cells are transfected just after trypsinization, while still in suspension. This protocol is preferred for drug screening applications and allows rapid processing, one day faster than the forward protocol.



### ▪ Robust Transfection Complexes for Reliable HTS

Complexes formed with the water-soluble polymer jetPEI® and DNA allow efficient transfection for up to 4 hours, in contrast to lipid-based reagents and calcium phosphate. Thus, they allow plenty of time to dispense the complexes into the plates.

**Figure 1:** Effect of Complex Formation Incubation Time on Transfection Efficiency With jetPEI®



### ▪ Efficient in a Wide Range of Cell Types

jetPEI® successfully delivers genes to various adherent and non-adherent cell lines, as well as primary cells.

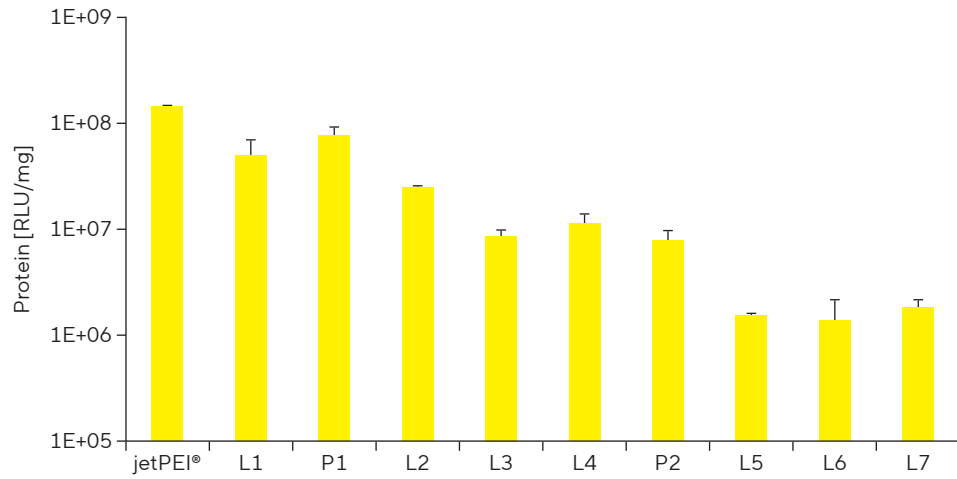
**Table 1:** Common Cell Lines and Primary Cells Successfully Transfected Using jetPEI®

Example of successfully transfected cell lines using jetPEI®			
3T3-21	COS-1®	MCF7	SK-N-MC
A549	COS-7	MRC-5	SK-OV-3
B16	CV-1	NIH-3T3	THP-1, Vero
BHK-21	HeLa	PANC-3	Primary hepatocytes
BNL CL.2	Hek-293	PC-12	Primary human fibroblasts
C2C12	Hep G2	RAW 264,7	Primary keratinocytes
Caco-2	Jurkat	SF9, SF21, S2	Primary pre-adipocytes
CHO	K-562	SiHA	Primary endothelial cells

### ▪ Superior Transfection Results

jetPEI® was compared to several other popular transfection reagents. jetPEI® was found to offer the best performance: high efficiency and low variability.

**Figure 2:** *Transfection Efficiency of a Series of Commercial Reagents*



Note. HeLa cells were transfected in 24-well plates in the presence of 10% serum, using 1 µg pCMV-luciferase according to the manufacturer's protocols. Luciferase expression was measured 24 hours after transfection.

## Ordering Information

Item	Description	Package   Volume   Quantity   Size	Order Number
jetPEI® 1 mL	Robust transfection reagent for automated or manual High Throughput Screening	0.1 mL Vial	101000053
jetPEI® 4x1 mL		4x1 mL Vial	101000020

### Germany

Sartorius Lab Instruments  
GmbH & Co. KG  
Otto-Brenner-Strasse 20  
37079 Goettingen  
Phone +49 551 308 0

### USA

Sartorius Corporation  
565 Johnson Avenue  
Bohemia, NY 11716  
Phone +1 631 254 4249  
Toll-free +1 800 635 2906

 For further information, visit  
[sartorius.com](https://www.sartorius.com)