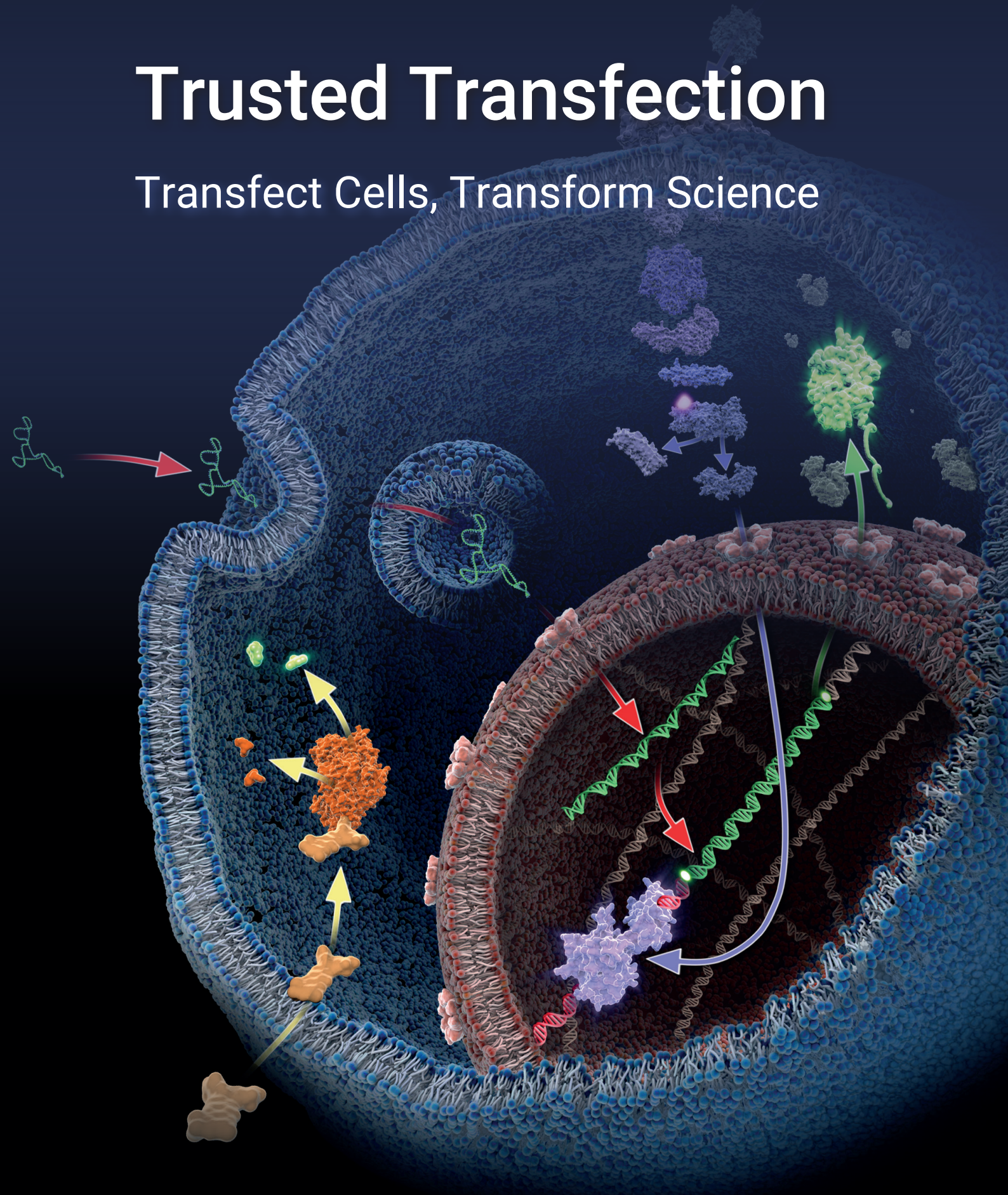


Trusted Transfection

Transfect Cells, Transform Science





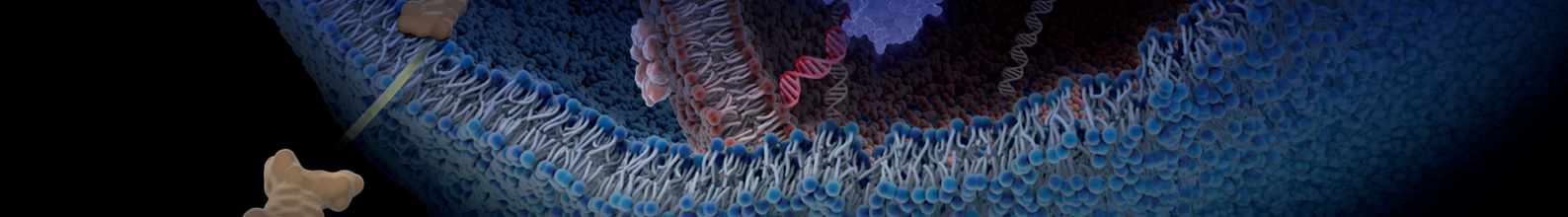
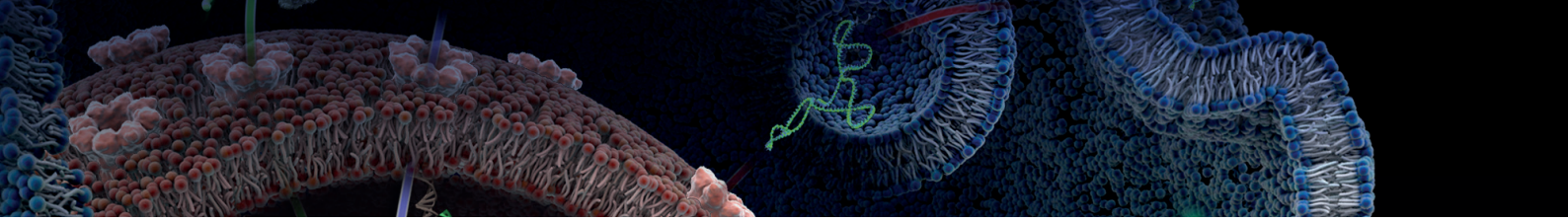


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Legal Information

NanoLuc®, Nano-Glo®, ViaFect™, PureYield™, TransfectNow™, CellTiter-Glo®, CellTiter-Fluor™, ONE-Glo™, Vac-Man®, Wizard MagneSil Tfx™ and ViaScript® are trademarks of Promega Corporation. Lipofectamine™ is a trademark of Thermo Fisher Scientific. FuGENE® is a registered trademark of Fugent LLC, USA. The images in this brochure were partially created with biorender.com.

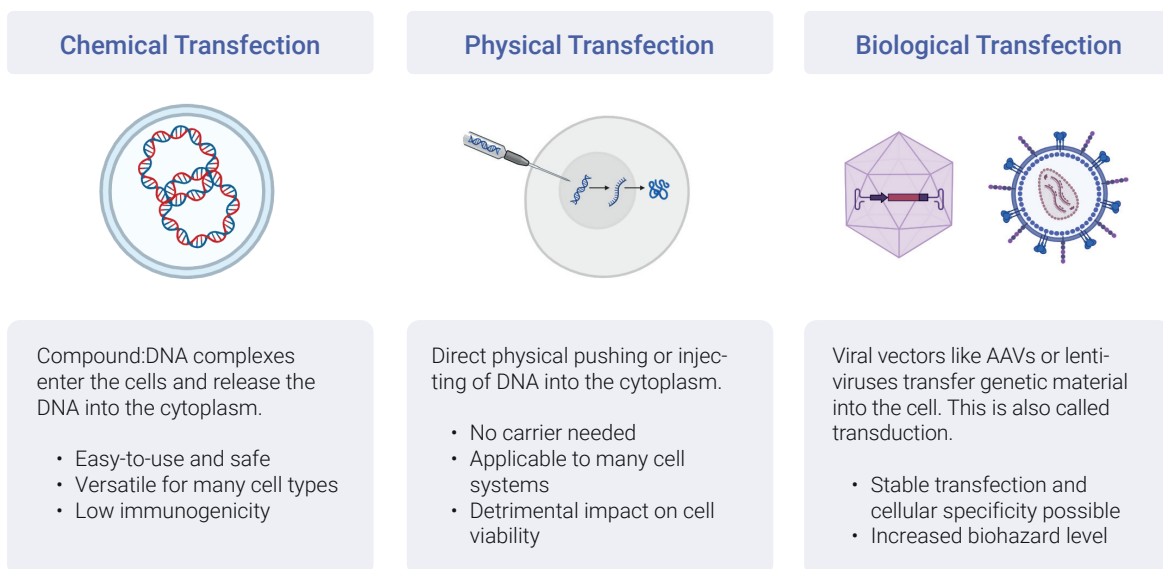


1. Transfection 101

Transfection Basics

Transfection allows for the direct manipulation of the genetic makeup of cells, providing a powerful means to explore genetic functions, develop new treatments, and advance scientific understanding in various fields of biology and medicine.

A large variety of transfection techniques for vertebrate and insect cells have been established.



Key Points to Consider

- ☑ **Cell Type Specificity:** Different reagents may perform better with specific cell types.
- ☑ **Cell Viability:** Selecting a method that balances transfection efficiency with minimal cytotoxicity is key.
- ☑ **Stable vs Transient Transfection:** Stable transfection is required for long-term studies. Transient transfection is suitable for short-term experiments and can be achieved with a broader range of reagents.
- ☑ **Scale of Transfection:** Select a transfection technique that supports the scale of the experimental setup.
- ☑ **Safety and Regulatory Considerations:** The safety profile of the transfection method and any regulatory compliance issues should be considered.

2. The Right Way to Transfect...

...Can Make or Break Your Research

Transfection is crucial and significantly impacts experimental outcomes. Efficient transfection ensures effective DNA delivery, maintains cell health and supports gene expression.

Inconsistent or poor transfection can reduce assay sensitivity and may yield misleading data. Effective transfection reagents coupled with optimized protocols are essential for achieving reproducible and meaningful scientific results.

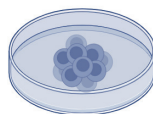
Mastering Transfection: Every Step Matters

1. Plasmid DNA



- Clean, supercoiled plasmid DNA
- Accurate DNA quantification

2. Cell Culture



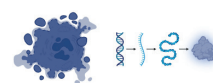
- Keep cells healthy
- Check contaminations like mycoplasma
- Reduce cell stress

3. Handling



- Ensure effective complex formation between DNA and transfection reagent
- Use NBS plasticware
- Keep sterile conditions

4. Cellular Impact



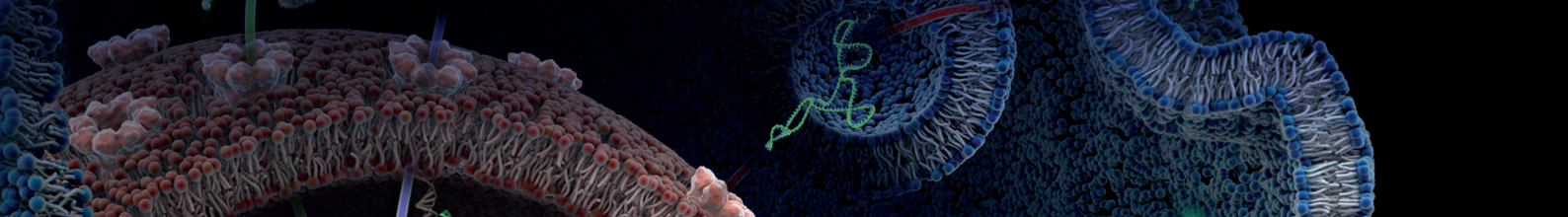
- There can be cell-type specific quirks
- Evaluate cytotoxicity
- Check influence on promoter activity and mRNA stability

Do you want to learn more?

You find more insights in our transfection guide:

www.promega.com/transfection-guide





3. Trusted Transfection Reagents

Let Biology, not Transfectability Dictate the Cell Line You Work with

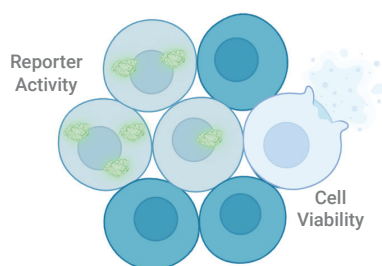
A diverse range of transfection reagents is necessary to meet the unique demands of each research project. Compatible with a wide array of downstream assays, these reagents are indispensable tools for cutting-edge research.

62% of test inquiries come from recommendations by fellow scientists, underscoring the trust placed in these reagents. Moreover, a significant proportion of those who test our reagents become regular buyers.

We're committed to ensuring that researchers find the perfect fit for their experiments. Thus, we provide both service support and sample requests to enable rigorous and informed testing.

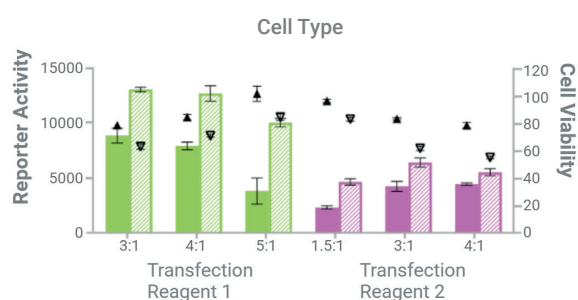
How to Best Evaluate Transfection Reagents

Three Outcomes after Transfection



- Transfected Cells
- Untransfected Cells
- Dying/Damaged Cells

How to Compare Transfection Reagents



- Measure the **successful transfection rate** with a reporter.
- Measure **cell viability** with an accompanying assay.

Get the highest degree of flexibility with the cell viability assays CellTiter-Glo® (when using a fluorescent reporter) and CellTiter-Fluor™ (when using a luminescent reporter) or profit from the ready-to-use solution for the firefly luciferase reporter:

ONE-Glo™ + Tox Luciferase Reporter and Cell Viability Assay

www.promega.com/cellhealth-assays



GLOMAX® DETECTION SYSTEMS

A Versatile, Reliable, and Intuitive Lab Companion to Support Your Research

GloMax® Discover is an advanced multimode plate reader designed to provide optimal performance for Promega reagents with high-performance luminescence, fluorescence, UV-visible absorbance, BRET and FRET, two-color filtered luminescence, and kinetic measurement capabilities. GloMax® Discover can be used as a standalone plate reading instrument or integrated into high-throughput automated workflows. Results are easy to interpret using integrated data analysis software.

One Instrument. Numerous Applications.

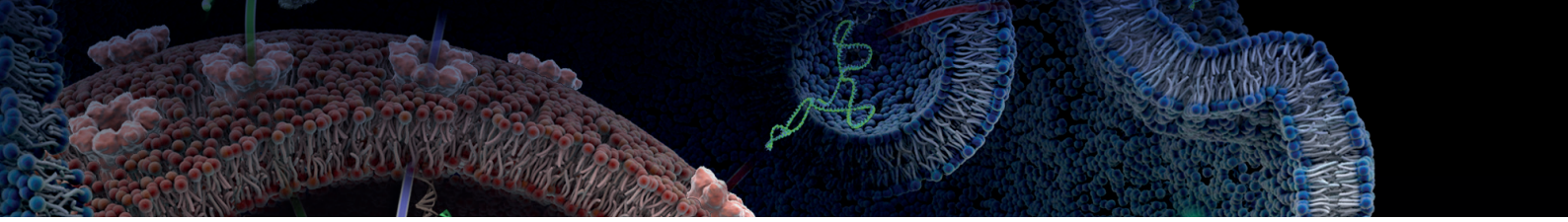
- ✔ Reporter gene assays
- ✔ Cell viability, cytotoxicity, and apoptosis assays
- ✔ Kinetic measurements
- ✔ Multiplexing
- ✔ Oxidative stress and cell metabolism
- ✔ ELISA
- ✔ BRET/FRET analysis
- ✔ Lumit® Immunoassays

GloMax SYSTEM

A high-performance, easy-to-use multimode plate reader for luminescence, fluorescence, absorbance, BRET, and FRET applications



For more information visit www.promega.com/glomax-comparison

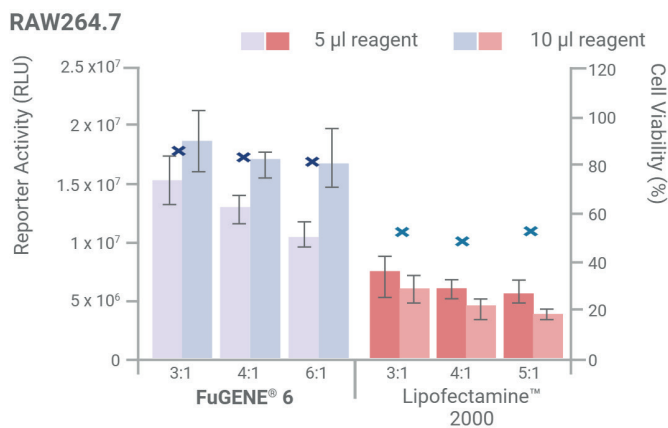


4. Best Choice Transfection Reagents

FuGENE® 6

Reliable Routine Transfection

Simplify your daily transfections with FuGENE® 6, a versatile and gentle reagent designed to deliver consistent, reliable results across a broad range of routine laboratory cell lines.



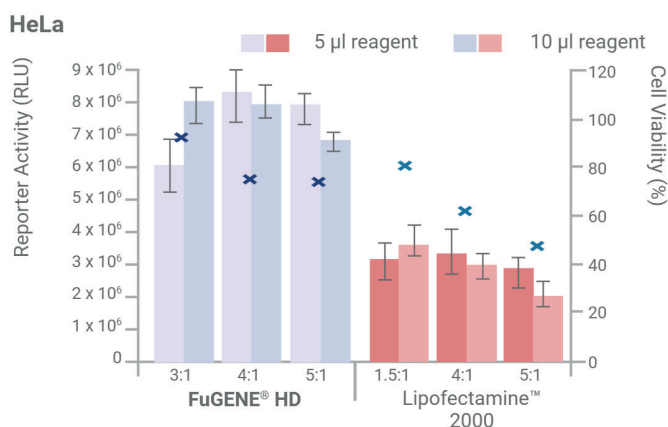
FuGENE® 6 Best Choice For

- ☑ COS7
- ☑ U2OS
- ☑ Raw264.2
- ☑ K562

FuGENE® HD

For Challenging Cell Lines and Advanced Applications

Elevate your research and tackle challenging cell lines and primary cells with FuGENE® HD, empowering you to explore new frontiers in stem cell studies as well as protein and virus production. FuGENE® HD's non-disruptive approach ensures high transfection efficiency without altering your cells' natural physiology.



FuGENE® HD Best Choice For

- ☑ A549
- ☑ HeLa
- ☑ PC-3
- ☑ SH-SY5Y
- ☑ HepG2
- ☑ Sf9

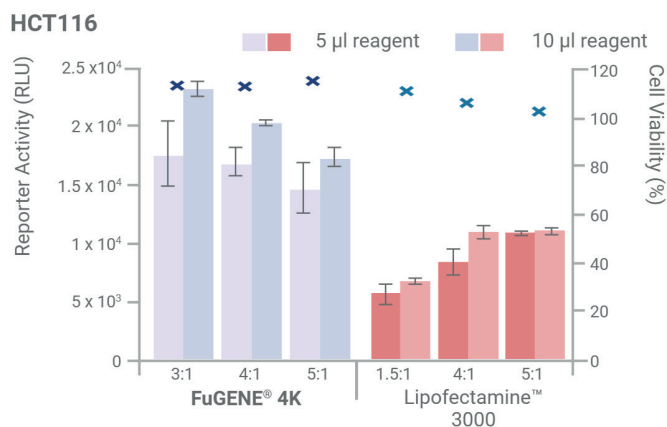
Are you working with other cell lines?

Contact Promega experts for a detailed recommendation at techserv@promega.com

FuGENE® 4K

High-Efficiency Transfections Across Diverse Cells

Streamline your transfection processes with FuGENE® 4K's advanced, easy-to-use formula, perfect for achieving high-efficiency DNA delivery across a wide variety of cell lines and primary cells for advanced applications.



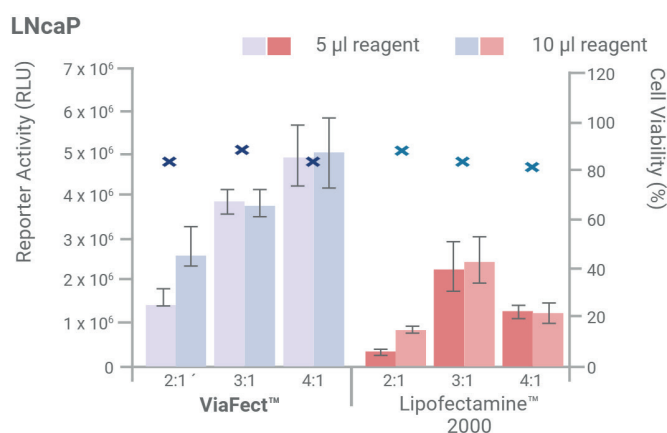
FuGENE® 4K Best Choice For

- ☑ HCT116
- ☑ H1299
- ☑ CHO-K1
- ☑ A375
- ☑ NIH3T3
- ☑ HEK293

ViaFect™

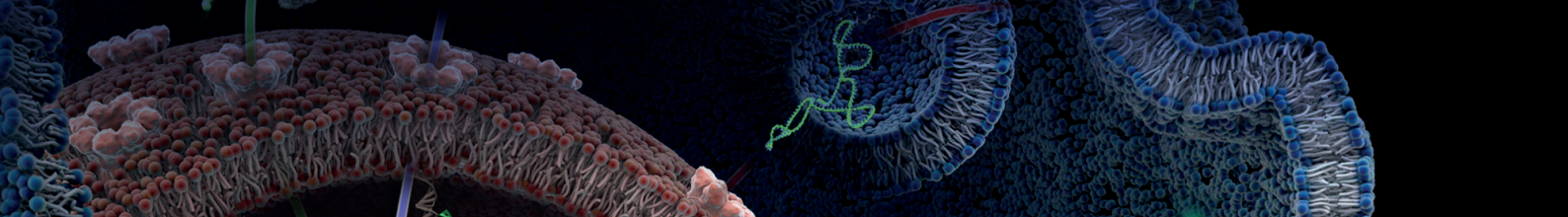
Superior Performance in a Wide Range of Cells

Enhance the efficiency and scope of your transfections with ViaFect™. It's engineered to deliver superior performance across a diverse array of cell lines, including those traditionally challenging to transfect. Optimize your experiments with the versatility and low toxicity of ViaFect™, ensuring high-level gene expression while maintaining the health and viability of your cells.



ViaFect™ Best Choice For

- ☑ C2C12
- ☑ LNcaP
- ☑ Jurkat
- ☑ HT-29
- ☑ MCF7
- ☑ PC-12
- ☑ H9C2
- ☑ C2C12



5. Best DNA Prep for Your Transfection

PureYield™ Plasmid Systems

Get clean plasmid DNA for every day applications using the PureYield™ Plasmid System, available as Mini-, Midi-, and Maxipreps.

Benefit from the fast and streamlined workflow using the Vac-Man® Laboratory Vacuum Manifold together with a vacuum pump.



Wizard MagneSil Tfx™ System

Do you need higher throughput but still want clean, transfection-ready plasmid DNA? Prepare your plasmids in 96-well plates using the Wizard MagneSil Tfx™ System. DNA capture on paramagnetic particles enables complete automation of the workflow.

Compatibility



The Wizard MagneSil Tfx™ System is compatible with automation on all major platforms, including Hamilton Star/Nimbus, Tecan Freedom Evo/Fluent, Biomek i5/i7, Eppendorf epMotion, and particle movers such as KingFisher.

Field Support Access



When you purchase a Promega extraction solution, you gain free access to our elite field support scientists, method development services, and technical support. Contact us if you need help setting up the Wizard MagneSil Tfx™ System on your robot.

Customization



With decades of experience in building personalized automation solutions, we can help you customize the scale, application, and chemistry, regardless of platform, exactly to your needs – the only limit is your imagination.

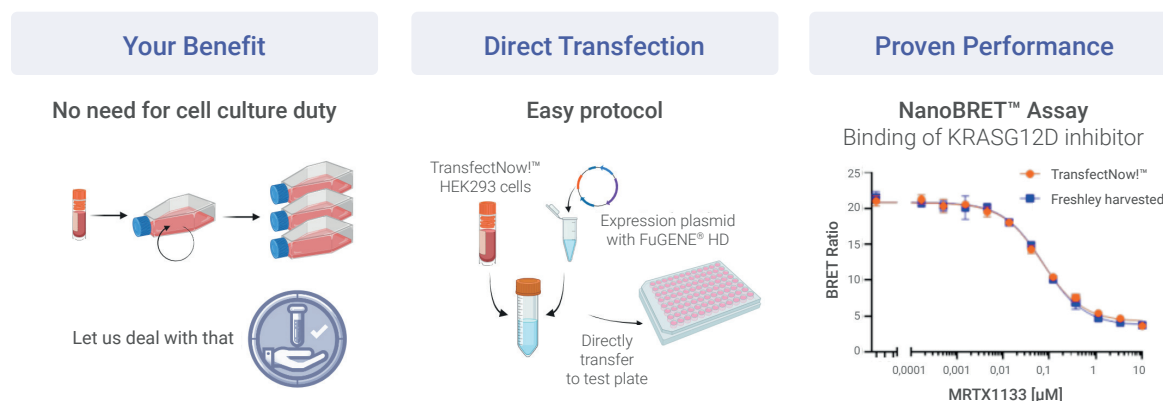
6. Start Using HEK293 Cells as Reagents

TransfectNow™ HEK293 Cells

Did you know that the quality of HEK293 cells and their culture conditions have profound effects on transfection. Not only is prior cell culture work and time intensive, but it is also a major source of variability between experiments.

Transfection almost as easy as with *E. coli*. Obtain your results faster with TransfectNow™ HEK293 Cells. Transfect the cells right after thawing and without cell culture duty. Robust quality controls ensure that you can trust your transfection and focus on more important elements in your research. TransfectNow™ cells are best used with FuGENE® HD transfection reagent.

Inside View – How It Works



The TransfectNow™ HEK293 cells enable direct transfection and implementation of the downstream assays. Compare the exemplary results obtained using either TransfectNow™ cells or freshly harvested HEK293 cells. The binding of MRTX1133 to activated KRAS is tested using our NanoBRET™ Target Engagement Assay and virtually no difference is observed in the results between the two options (IC₅₀ values: 0.071 with TransfectNow™ cells and 0.076 with freshly harvested cells).

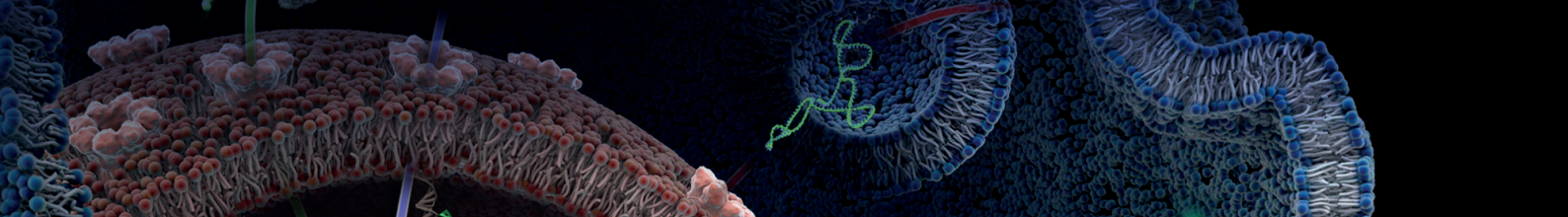


Are you interested in advancing drug discovery?

Then read our eBook Assays for Drug Discovery & Development

www.promega.com/drug-discovery-brochure

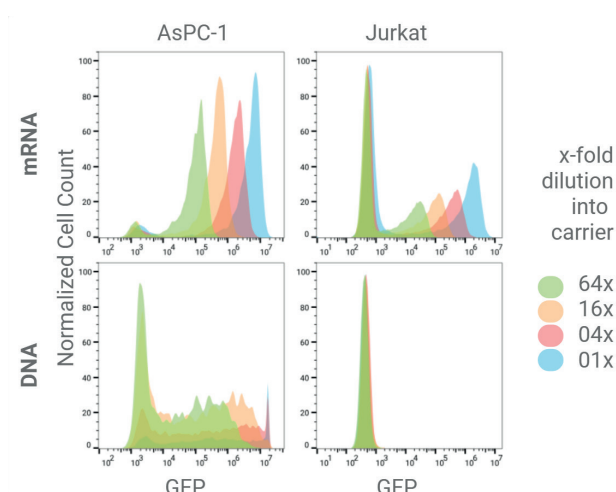




7. Uniform and Tunable Gene Expression

ViaScript® mRNA Transfection Reagent

Efficiently transfect genes across diverse cell lines with low toxicity and, at the same time, get advanced expression control for optimized assays. Evenly adjust expression across your entire cell population by proportionately changing the amount of reporter mRNA. Titrating reporter expression with ViaScript® mRNA Transfection Reagent enables easy assay window optimization without compromising transfection efficiency.

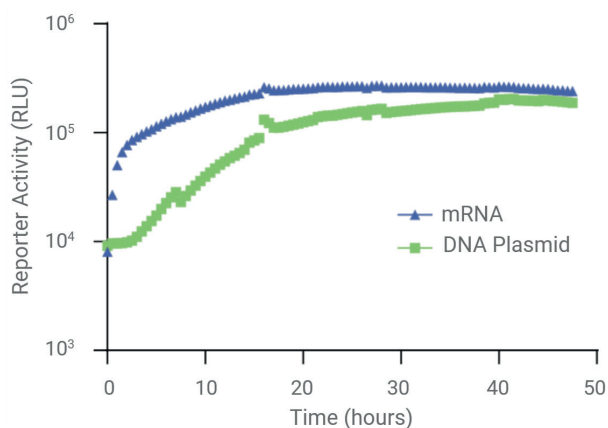


ViaScript® mRNA transfection reagent provides advanced expression control

Titration of reporter expression with ViaScript® mRNA Transfection Reagent enables easy assay window optimization without compromising transfection efficiency.

AsPC-1 and Jurkat cells were transfected with GFP-encoding mRNA diluted x-fold into carrier RNA and the cell population was analyzed using FACS.

Notice the homogenous expression levels in the transfected cells relative to the respective dilution factor.



Effective HiBiT detection with ViaScript® LgBiT mRNA transfection reagent

HiBiT signal peaks earlier after transfection with ViaScript® LgBiT mRNA Delivery System than with DNA plasmid transfection, allowing you to start your experiments sooner and get data faster.

Complemented NanoBiT® luciferase is very stable and can be detected for 72 h using our extended live cell Nano-Glo® reagents.

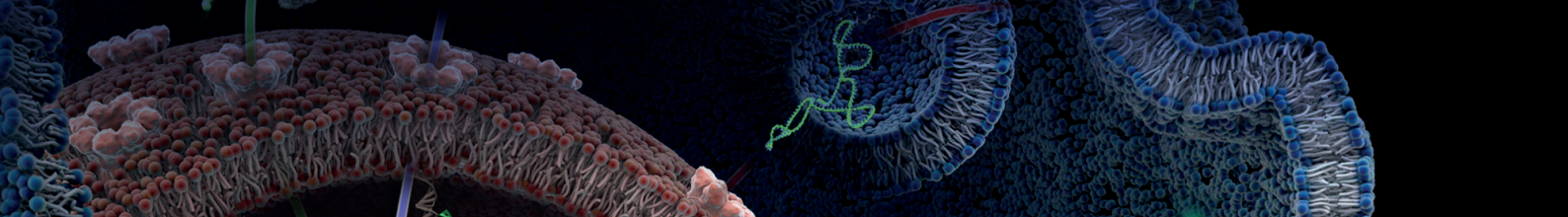
8. Products in Each Section at a Glance

Products	Size	Cat.#
Transfection 101		
Firefly Luciferase Control Vectors	20 µg	E5011
ONE-Glo™ EX Luciferase Assay System	10 ml	E8110
ONE-Glo™ + Tox Luciferase Reporter and Cell Viability Assay	1 plate	E7110
Nanoluc® Luciferase Control Vectors	20 µg	N1441
Nano-Glo® Luciferase Assay System	10 ml	N1110
CellTiter-Glo® 2.0 Cell Viability Assay	10 ml	G9241
CellTiter-Fluor™ Cell Viability Assay	10 ml	G6080
Transfection Carrier DNA	5 x 20 µg	E4881
Best Choice Transfection Reagents		
FuGENE® 6 Transfection Reagent	1 ml	E2691
	5 x 1 ml	E2692
FuGENE® HD Transfection Reagent	1 ml	E2311
	5 x 1 ml	E2312
FuGENE® 4K Transfection Reagent	1 ml	E5911
	5 x 1 ml	E5912
ViaFect™ Transfection Reagent	0.75ml	E4981
	2 x 0.75ml	E4982
ViaScript® mRNA Transfection Reagent	10 plates	EV4961
	5 x 10 plates	EV4965
Best DNA Prep For Your Transfection		
PureYield™ Plasmid Miniprep System	100 preps	A1223
	250 preps	A1222
PureYield™ Plasmid Midiprep System	25 preps	A2492
	100 preps	A2495
PureYield™ Plasmid Maxiprep System	10 preps	A2392
	25 preps	A2393
Vac-Man® Laboratory Vacuum Manifold	1 each	A7231
Wizard MagneSil Tfx™ System	4 x 96 preps	A2380
TransfectNow™ HEK293 Cells		
TransfectNow™ HEK293 Cells	1 x 0.5 ml	NC1001
	2 x 1 ml	NC1002

New products are released faster than we can print brochures.
Find the complete and up-to-date product portfolio at

www.promega.com





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Countries

50+

Distributors

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Fax +1 608 277 2516

custserv@promega.com

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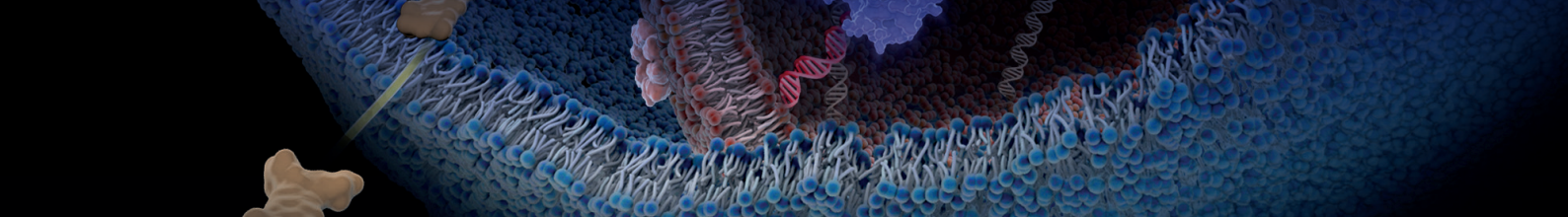
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