

HiPerFect[®] HTS Reagent For high-throughput transfection of siRNA or miRNA

In high-throughput experimental settings, easy-to-handle processes, reliable results, and cost effectiveness are key priorities. HiPerFect HTS Reagent has been developed especially to meet these needs. HiPerFect HTS Reagent is highly stable and easy-to-use, and provides robust and reliable transfection ensuring consistent, reproducible data.

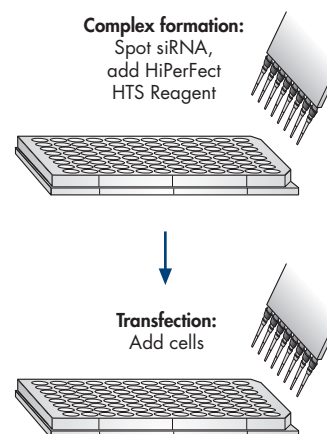
HiPerFect HTS Reagent provides:

- A one-day, one-plate procedure
- Economical experiments
- Reproducible, high transfection efficiency
- Ease of handling and stability

One-day, one-plate procedure

In high-throughput experiments, reductions in time-to-result, labor, and consumable use significantly improve the workflow. Using HiPerFect HTS Reagent, cells are seeded and transfected on the same day, saving time and effort. Just one plate is used for both complex formation and transfection, minimizing consumable use and pipetting steps.

In addition to saving on plastic consumables, low volumes of HiPerFect HTS Reagent are used for each transfection, ensuring maximum cost-efficiency without compromising on reproducibility and reliability of results (Figures 1 and 2).



High-throughput transfection using HiPerFect HTS Reagent

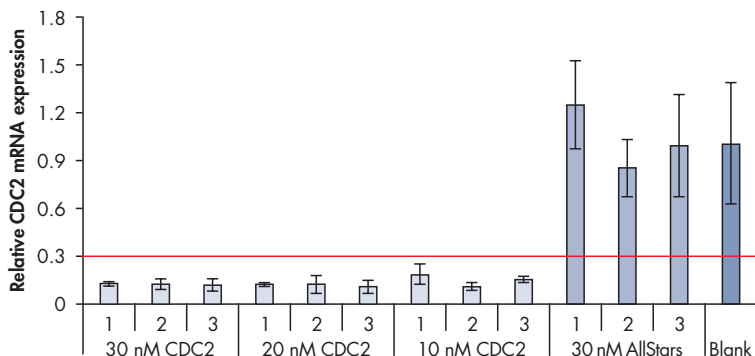


Figure 1. Reproducibly high transfection and silencing efficiency. MCF-7 cells were transfected with CDC2 siRNA (10 nM, 20 nM, or 30 nM) or AllStars Negative Control siRNA (30 nM) using HiPerFect HTS Reagent in 96-well plates. Each transfection was performed in triplicate. Gene silencing was analyzed by real-time, quantitative RT-PCR. All samples transfected with CDC2 siRNA demonstrated consistently high CDC2 knockdown in all replicates.



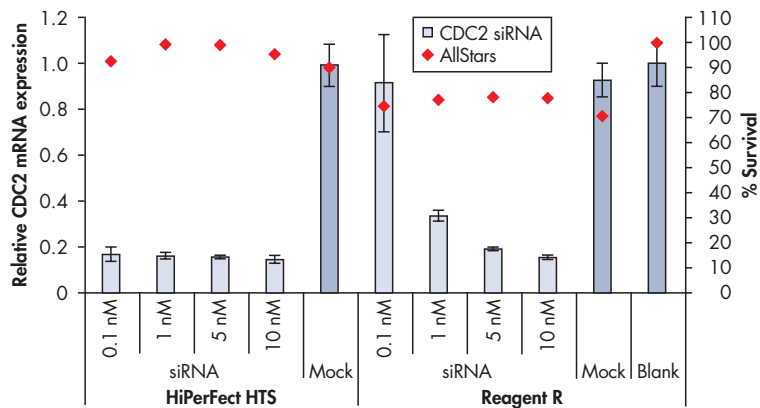


Figure 2. HiPerFect HTS Reagent outperforms alternative reagent. HCT116 cells were transfected with CDC2 siRNA or AllStars Negative Control siRNA at the concentrations indicated in 96-well plates. Transfections were performed using HiPerFect HTS Reagent or Reagent R from an alternative supplier. Gene silencing was analyzed by real-time, quantitative RT-PCR. Knockdown level is shown on left y-axis. Samples transfected using HiPerFect HTS Reagent demonstrated consistently high CDC2 knockdown for all siRNA concentrations tested. In contrast, samples transfected using Reagent R provided less effective knockdown at lower siRNA concentrations. Analysis of cytotoxicity was also performed using the CellTiter-Glo® Assay (Promega) after siRNA transfection of AllStars Negative Control siRNA at the concentrations indicated. Percentage survival relative to untransfected cells is shown as red dots and on the right y-axis. HiPerFect HTS Reagent showed a high rate of cell survival. Lower cell survival levels were observed after transfection using Reagent R.

Reliable transfection for reproducible results

HiPerFect HTS Reagent is specially optimized for use in a high-throughput experimental setup. Reliable results are assured in a wide range of cell lines, including primary cells (Figure 3 and Table 1). Protocols for transfection of cells in 96-well and 384-well plates are provided.

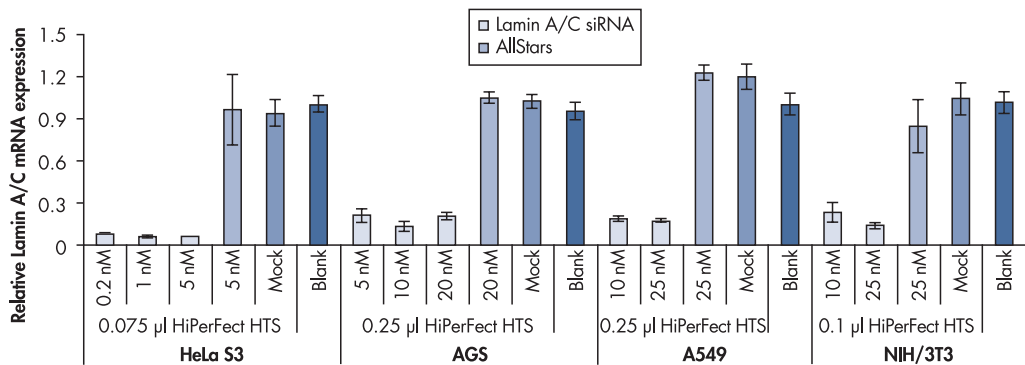


Figure 3. Efficient transfection in human and mouse cell lines. Various cell types were transfected with Lamin A/C siRNA or AllStars Negative Control siRNA at the concentrations indicated using HiPerFect HTS Reagent in 384-well plates. Gene silencing was analyzed by real-time, quantitative RT-PCR. HiPerFect HTS Reagent provided high Lamin A/C knockdown for all concentrations tested in all cell types.

Table 1. Cell lines successfully transfected using HiPerFect HTS Reagent

Human adherent cell lines			Human primary cells	Mouse adherent cell lines
293	HCT116	LNCaP	HUVEC	NIH/3T3
A549	HeLa	HeLa S3	NHDF	B16F1
AGS	HepG2	MCF-7		
Caco2	Huh7	MDA MB231		

Ease-of-use and stability facilitates workflow

In high-throughput transfections, where high numbers of samples are processed simultaneously, the use of a robust, high-performing reagent is essential for a standardized, smooth-running workflow. HiPerFect HTS Reagent offers many benefits, including high lot-to-lot consistency and high stability in dilution (Figures 4 and 5). These qualities minimize experimental artifacts and make experimental setup easier. For example, HiPerFect HTS Reagent can be diluted in the morning and used for complex formation throughout the day without any decrease in performance.

In addition, HiPerFect HTS Reagent consistently provides high transfection efficiency, even if variations in cell density occur (Figure 6). HiPerFect HTS Reagent can be kept at room temperature during use and is stable for 2 years after receipt.

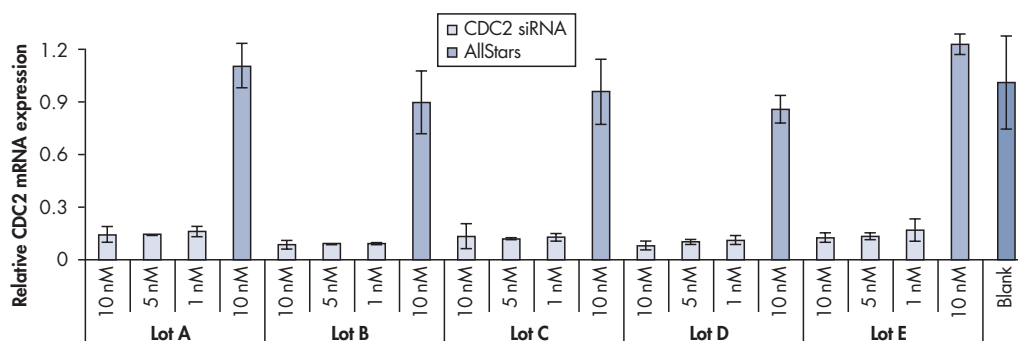


Figure 4. High lot-to-lot consistency. HeLa S3 cells were transfected with CDC2 siRNA or AllStars Negative Control siRNA at the concentrations indicated using HiPerFect HTS Reagent from 5 different lots in 96-well plates. Gene silencing was analyzed by real-time, quantitative RT-PCR. All samples transfected with CDC2 siRNA demonstrated consistently high CDC2 knockdown for all reagent lots.

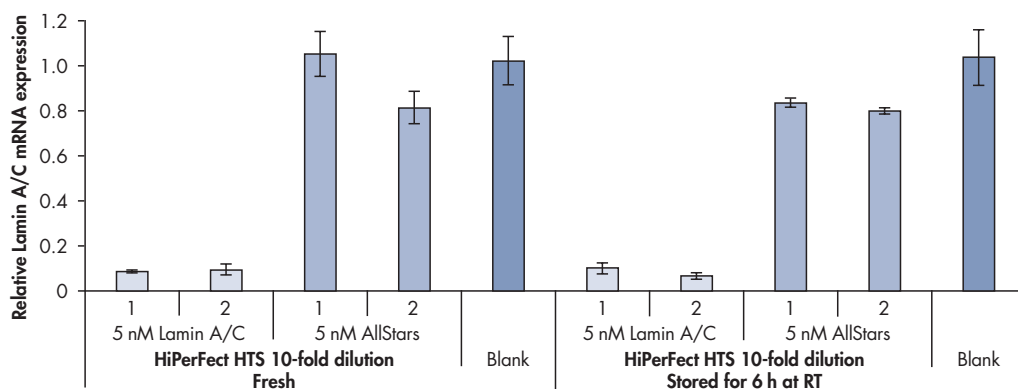


Figure 5. High stability in dilution. HeLa S3 cells were transfected with Lamin A/C siRNA (5 nM) or AllStars Negative Control siRNA (5 nM) using HiPerFect HTS Reagent in 96-well plates. After dilution in culture media, HiPerFect HTS Reagent was either used immediately for transfection, or stored at room temperature for 6 hours and then used for transfection. Gene silencing was analyzed by real-time, quantitative RT-PCR. All samples transfected with CDC2 siRNA demonstrated consistently high CDC2 knockdown for both freshly diluted HiPerFect HTS Reagent and HiPerFect HTS Reagent stored for 6 hours at room temperature.

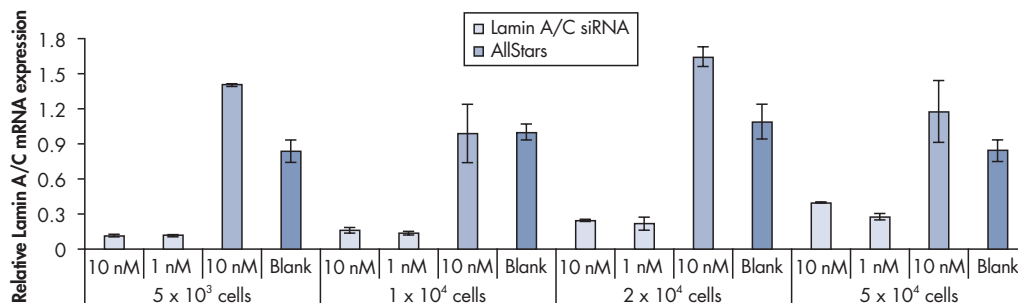


Figure 6. Effective transfection at a range of cell densities and siRNA concentrations. HepG2 cells were transfected with Lamin A/C siRNA or AllStars Negative Control siRNA at the concentrations indicated using 0.1 μ l HiPerFect HTS Reagent per sample in 96-well plates. Cell density at the time of transfection is indicated. Gene silencing was analyzed by real-time, quantitative RT-PCR. All samples transfected with Lamin A/C siRNA demonstrated high Lamin A/C knockdown.

Wide range of applications

HiPerFect HTS Reagent enables high-throughput transfection for a range of applications, including:

- Pathway analysis
- Drug discovery
- miRNA functional analysis

Ordering Information

Product	Contents	Cat. no.
HiPerFect HTS Reagent (0.1 ml)	Reagent for transfections in 4–10 x 96-well plates	301802
HiPerFect HTS Reagent (2 x 1 ml)	Reagent for transfections in 80–200 x 96-well plates	301806
HiPerFect HTS Reagent (6 x 1 ml)	Reagent for transfections in 240–600 x 96-well plates	301807

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual. QIAGEN kit handbooks and user manuals are available at www.qiagen.com or can be requested from QIAGEN Technical Services or your local distributor.

Find out more about HiPerFect HTS Reagent at www.qiagen.com/easy-transfection!

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