SureSilencing shRNA Plasmids

For efficient knockdown of every human, mouse, and rat gene

SureSilencing shRNA Plasmids specifically knock down any human, mouse, or rat gene using RNA interference. Four separate short hairpin RNA (shRNA) sequences are provided, packaged in a plasmid backbone containing either mammalian selection markers or GFP. shRNA sequences are constructed using an experimentally verified shRNA design algorithm, delivering maximum gene specificity and RNAi efficacy. This method ensures that you will see 70% or greater knockdown for your target gene with at least 2 of the 4 shRNA plasmids. The availability of 2 effective sequences allows proper controls for nonspecific and off-target effects.

SureSilencing shRNA Plasmids provide:

- **Transient or stable gene silencing**
- **At least 70% knockdown of target gene guaranteed***
- **Cost-effective, renewable source of RNA interference**

Unlike chemically synthesized siRNA, plasmid-based shRNA provides a renewable source of RNA interference. Simple plasmid amplification will yield shRNA-mediated knockdown for project after project. The Smith-Waterman specificity search for shRNA sequence design provides minimum off-target effects and high specificity. Using plasmids with antibiotic resistance for neomycin, puromycin, or hygromycin, stable transfectants can be enriched in cell culture for analysis of the long-term effects of gene knockdown. Alternatively, shRNA plasmids with GFP permit short-term analysis of knockdown. Complete shRNA sequence information is also included with SureSilencing shRNA Plasmids.

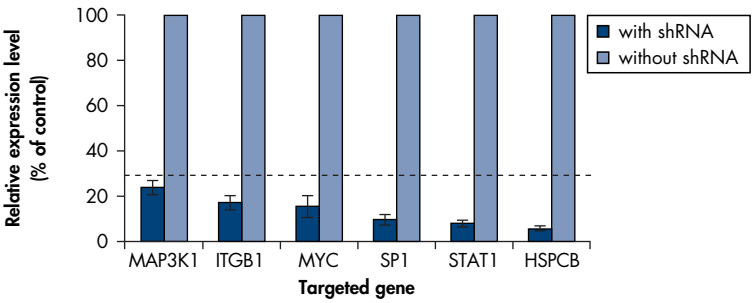
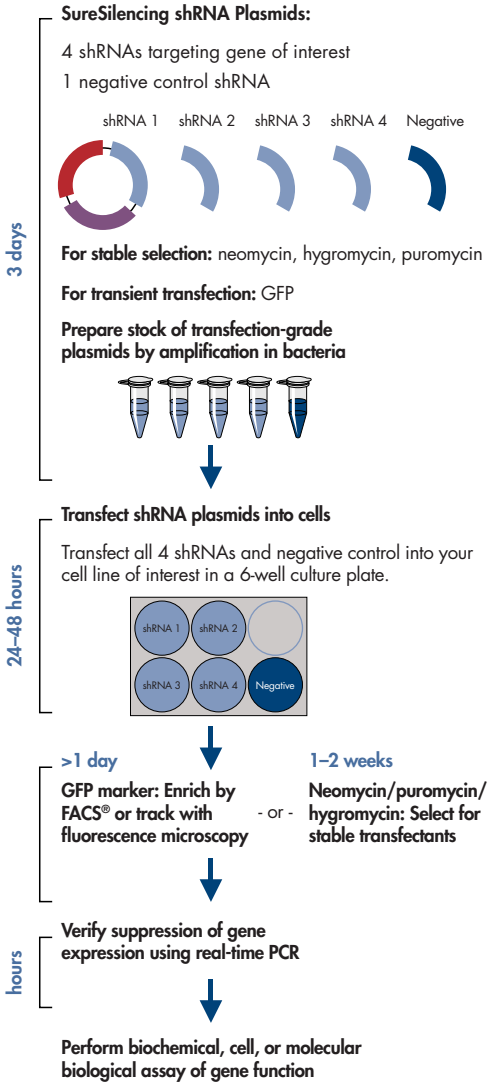


Figure 1. SureSilencing shRNA Plasmids knock down target gene expression in transfected cells by at least 70%. SureSilencing shRNA Plasmids with GFP marker for each of 6 genes were transfected into HEK-293 cells. The transfection efficiency was estimated by fluorescence microscopy. The relative expression level of each target gene, normalized to transfection efficiency, was determined by qRT-PCR and plotted with the standard deviation of the biological and technical replicates.

How it works



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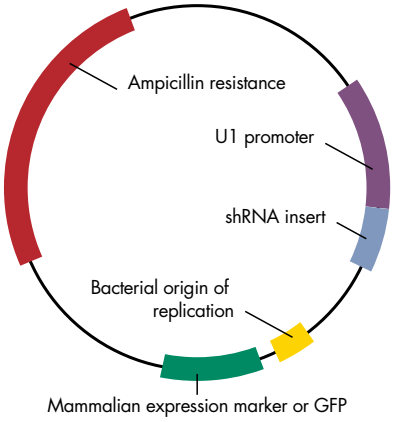

Applications

- RNA interference for virtually any cell line
- Stable transfections with resistance markers
- Transient transfections GFP-enriched by FACS
- Transient transfections GFP-tracked by fluorescence microscopy

Figure 2. Key features of SureSilencing shRNA Plasmids. The U1 promoter transcribes a moderate amount of shRNA, limiting off-target effects and toxicity. The ampicillin-resistance marker and bacterial origin of replication permit amplification for a lifetime supply of plasmid. Finally, mammalian expression markers such as neomycin, puromycin, or hygromycin permit selection for stable transfectants, while the GFP marker is suitable for short-term analysis of transient transfection.

Ordering Information

Product	Contents	Cat. no.
SureSilencing shRNA Plasmid	SureSilencing shRNA Plasmid with neomycin resistance	KX#####N
SureSilencing shRNA Plasmid	SureSilencing shRNA Plasmid with puromycin resistance	KX#####P
SureSilencing shRNA Plasmid	SureSilencing shRNA Plasmid with GFP marker	KX#####G
SureSilencing shRNA Plasmid	SureSilencing shRNA Plasmid with hygromycin resistance	KX#####H
Related Products		
Attractene Transfection Reagent (1 ml)	Attractene Transfection Reagent for up to 600 transfections in 24-well plates	301005
RT² qPCR Primer Assays	Available for all shRNA target genes and housekeeping genes	Varies
Cignal Reporter Assays	For quantitative assessment of signal transduction pathway activation and inhibition by shRNA	Varies
RT² Profiler PCR Arrays	For profiling pathway-focused gene expression	Varies

X = H for Human, M for Mouse, or R for Rat

Discover more, visit www.sabiosciences.com/shRNA.php !

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.sabiosciences.com or can be requested from QIAGEN Technical Services or your local distributor.

*At least 2 of the set of 4 SureSilencing shRNA Plasmids will knock down the expression of the target gene by at least 70 percent in transfected cells by real-time PCR relative to negative-control shRNA transfected cells upon FACS-based enrichment for GFP expression or selection for neomycin, puromycin, or hygromycin resistance as described in the SureSilencing shRNA Plasmid Handbook. Please follow the recommendations in this handbook to ensure the optimal level of knockdown from these plasmids and the best method for detecting knockdown. If you can demonstrate each plasmid's failure to knock down gene expression as described, we will send you another set of four pre-designed plasmids at no cost. This is the sole and exclusive remedy for failure of the guarantee.

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