



LightSwitch microRNA Mimics and Inhibitors

OVERVIEW

MicroRNAs (miRNAs) are important regulators of gene expression. There are approximately 1000 miRNAs in the human genome, and they are expressed as 21-25 nucleotide RNAs that are thought to repress protein expression by targeting the 3'UTR of mRNA transcripts. The interaction of a miRNA with a 3'UTR results in either the degradation of the target transcript or inhibition of translation.

LightSwitch miRNA mimics are chemically optimized synthetic double-stranded RNAs that act as functional equivalents to endogenous human miRNAs. A LightSwitch miRNA mimic can be transfected into cells to study the effects of over-expression of a miRNA of interest. Similarly, LightSwitch miRNA inhibitors are optimized synthetic RNAs that can be used to knock down the expression of endogenous human miRNAs in living cells. All of the LightSwitch miRNA products are based on miRNA sequences deposited in the miRBase database of miRNA sequences (<http://www.mirbase.org/>).

LightSwitch miRNA mimics and inhibitors have been fully optimized for use with LightSwitch 3'UTR GoClone reporters. The combination of LightSwitch mimics and inhibitors with 3'UTR reporters provides a fully integrated system for validating the 3'UTR targets of your miRNAs of interest. SwitchGear Genomics provides full protocols and an extensive set of validated controls to conduct your miRNA experiments with the highest degree of confidence.

PRODUCT DESCRIPTION

| Item | Amount | Price |
|--|--------|----------|
| LightSwitch miRNA Mimics (Product ID: MIM- - - -) | 5nmol | \$159.00 |
| | 10nmol | \$229.00 |
| | 20nmol | \$299.00 |
| LightSwitch miRNA Inhibitors (Product ID: INH- - - -) | 5nmol | \$159.00 |
| | 10nmol | \$229.00 |
| | 20nmol | \$299.00 |

STORAGE & HANDLING

LightSwitch miRNA products are shipped as stable lyophilized pellets. The lyophilized miRNA products are stable at -20 C for up to 6 months. After resuspension, the products can be stored at -80 C for up to 6 months. For maximum stability, minimize the number of freeze-thaw cycles of the products in solution.

RESUSPENSION PROTOCOL

Resuspend LightSwitch miRNA products according to the table below. Use only sterile RNase-free water to resuspend the products. RNA oligos are sensitive to nuclease degradation, therefore we recommend resuspending LightSwitch miRNA products using gloves in a nuclease-free environment.

| Amount | Volume of water | Final concentration |
|---------|-----------------|---------------------|
| 5 nmol | 500 uL | 10 uM |
| 10 nmol | 1000 uL | 10 uM |
| 20 nmol | 1000 uL | 20 uM |

3'UTR REPORTER TARGET VALIDATION PROTOCOL

Protocols for co-transfecting miRNA mimics and 3'UTR reporters can be found at: http://switchgeargenomics.com/wp-content/themes/switchgear/images/docs/resources/LightSwitch_miRNA.pdf

RELATED PRODUCTS

| Item | Catalog No. |
|---|-------------|
| LightSwitch Assay Reagent™ (100 assays) | LS010 |
| LightSwitch Assay Reagent™ (1000 assays) | LS100 |
| GoClones™ Promoters | S7- - - - - |
| GoClones™ Promoter Controls | S79- - - - |
| GoClones™ 3'UTRs | S8- - - - - |
| GoClones™ 3'UTR Controls | S89- - - - |
| LightSwitch Transfection Optimization Kit | TFXOPT |
| FuGENE HD® Transfection Reagent | F500 |

LEGAL

LightSwitch miRNA products are for research use only. SwitchGear does not guarantee the functional activity of the LightSwitch miRNA products. LightSwitch miRNA products are manufactured by Bioneer, Inc.