

Synthetic Biology

Gene Silencing



siRNA, miRNA, and shRNA

There are various approaches to study RNAi. Synthetic siRNA (small interfering RNAs) and shRNA (small hairpin RNA) constructs are two of the numerous options available. BSI provides custom synthesis of sequence-specific siRNA for direct transfection, shRNA synthesis, as well as long purified DNA oligos that can be cloned to form shRNA constructs. Our siRNAs are double-stranded DNA, RNA or LNA molecules, made of 19 RNA nucleotides with two nucleotides (usually DNA bases) 3' overhang or 27 mers with no overhang. They are used to knockdown a specific gene of interest for identifying gene function, elucidating pathways and screening for potential new drug targets.

Quality Guaranteed

siRNA Bioconjugation

- ✓ Peptide-siRNA conjugation
- ✓ siRNA-PNA conjugation
- ✓ siRNA-antibody conjugation
- ✓ siRNA-dye labeling
- ✓ siRNA-lipid conjugates
- ✓ siRNA-polymer conjugates

RNA Purifications

- ✓ Custom RNA isolation, quantification
- ✓ Total RNA extraction, purification kits
- ✓ FFPE RNA and miRNA purification kits
- ✓ RNA ladders
- ✓ Other nucleic acid purification kits

RNA Ubermer™

Synthetic RNA up to 150 mers

- ✓ 5-50 µgs purified
- ✓ Modification options available
- ✓ Ideal for miRNA, shRNA design

RNA transcript 3,000+ mers

- ✓ 20 µgs to multi-mgs purified
- ✓ Base modification options
- ✓ Labeling, capped, polyA tailing

Our Guarantee

- ▶ All siRNA undergo vigorous process monitoring and strict quality control
- ▶ Length and labeling are systematically quality check by PAGE or MS analysis
- ▶ Quantity is systematically validated by UV absorbance at 260 nm

Synthetic siRNA

Starting \$200

- Free online design Sci-App tools
- 19 to 27 mers in length with or without overhangs
- 20 nmole to 7,500 nmole synthesis scale with modification options
- Available in duplex or single-stranded form
- Comprehensive QC package for each siRNA
- Desalted, HPLC, In-vivo-ready, In-vivo-HPLC sample processing options

Vector-Based siRNA

Starting \$400

A small DNA insert (~80 bp) encoding a short hairpin RNA targeting the gene of interest is cloned into a siRNA expression vector. The insert-containing vector can be transfected into the cell, where it expresses the short hairpin RNA.

You Receive

- 5 µg or more of lyophilized plasmid containing siRNA constructs
- Verification of the Insert Sequence along with trace data of the plasmid
- Quality Control: QA certification, construct map, sequencing data



Visit Biosyn.com to learn more information about our [Gene Expression Services](#).

Your Source of Quality Biology Services



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