shRNA & siRNA

**Choose OriGene. Comprehensive and innovative RNAi tools.**
+ Genome wide coverage of Human, Mouse & Rat genes
+ Custom services for shRNA and miRNA
+ Over 600 RNAi citations
+ Scrambled control included in shRNA & siRNA kits **FREE**
+ Guaranteed Knockdown

### shRNA vs. siRNA vs. miRNA

<table>
<thead>
<tr>
<th>shRNA</th>
<th>siRNA</th>
<th>miRNA</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Retroviral vector options (No reporter / GFP / RFP) 1 Lentiviral vector option (GFP / RFP reporter)</td>
<td>Unique 27mer siRNA duplexes produce 10-fold higher potency and specificity vs 21mers</td>
<td>GFP reporter with Neomycin</td>
</tr>
<tr>
<td>5 ug transfection-ready DNA per construct</td>
<td>2 nmol per duplex</td>
<td>10 ug per construct</td>
</tr>
<tr>
<td>Guaranteed knockdown (&gt;=70%)</td>
<td>Guaranteed knockdown (&gt;=70%)</td>
<td>Fully Sequenced</td>
</tr>
<tr>
<td>4 constructs + 1 negative scrambled control</td>
<td>3 duplexes + 1 negative control</td>
<td>siTran1.0 Transfection Rgt.</td>
</tr>
<tr>
<td>Lentiviral Packaging Kit</td>
<td>3' UTR Clones for target validation</td>
<td></td>
</tr>
</tbody>
</table>

*Need Custom shRNA? ExactHuSH is the answer!*
+ target other species
+ multiple vector selections
+ design it yourself or let us help

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**Effective Knockdown**

**shRNA - 29mer**

Lentiviral transduction (4 days) Vector only (left) vs shRNA targeting 1GFP (right)

**siRNA - 27mer**

Knocking down CTCF (SR307273) down-regulated the expression of endogenous Pdcd4 genes. (1)

**miRNA - Expression Plasmid**

Exogenous miR-29b (SC400310) expression into PC-3M cells. (2)

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https://www.origene.com/products/rnai
**shRNA & siRNA**

**RNAi Gene Silencing**

**shRNA? siRNA? miRNA?** With so many choices, we’ve put together a guide to help you decide.

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<tbody>
<tr>
<td>Gene-specific knockdown</td>
<td>Yes</td>
<td>Yes</td>
<td>No, regulates multiple genes</td>
</tr>
<tr>
<td>Transient transfection</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Stable transfection</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Infection</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Renewable RNAi resource</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Sample RNAi Citations**

- Tubulin Acetyltransferase αTAT1 Destabilizes Microtubules Independently of Its Acetylation Activity
- miRNA-29b Suppresses Prostate Cancer Metastasis by Regulating Epithelial–Mesenchymal Transition Signaling
- Desmplakin acts as a tumor suppressor by inhibition of Wnt/β-catenin signaling pathway in human lung cancer
  *Carcinogenesis, Oct 2012* [DSP siRNA]
- Taxifolin Enhances Andrographolide-Induced Mitotic Arrest and Apoptosis in Human Prostate Cancer Cells via Spindle Assembly Checkpoint Activation
  *PLoS One. January 2013* [siTran1.0]

**Supporting Products**

**siTran1.0 siRNA Transfection Reagent (TT320001)**
High efficient transfection reagent

**Lentiviral Packaging Kit (TR30037)**
Optimized for high packaging efficiency

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HEK293 cells transfected with TYE-563 labeled siRNA. Phase contrast, top panels. Fluorescence: bottom panels

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