Silencer[®] In Vivo Ready Pre-designed siRNA *Silencer*[®] In Vivo Ready Validated siRNA Custom In Vivo Ready siRNA

General Product Details and User Information

Refer to page 2 for individual Pre-designed, Validated, and Custom In Vivo Ready siRNA products.

Appearance:	Powder			
Storage Conditions:	Store at or below –20°C. Do not store in a frost-free freezer. (Dried oligonucleotides are shipped at ambient temperature.)			
USER INFORMATION				
General Information:	In Vivo Ready s purified by HPL through a 0.2 μ	siRNAs are high quality siRNA C, annealed, subjected to an m pre-sterilized filter, and test	s that are ready for introduction into animals. Each siRNA strand is additional dialysis step to ensure that the siRNA is salt free, filtered ed for presence of endotoxin.	
Handling Instructions:	RNA oligonucleotides are susceptible to degradation by exogenous ribonucleases introduced during handling. Wear gloves when handling this product. Use RNase-free reagents, tubes, and barrier pipette tips. Upon receipt, your siRNAs may be safely stored in a non-frost-free freezer at or below –20°C (dried oligonucleotides are shipped at ambient temperature).			
	Standard biological sterile techniques should also be used when handling In Vivo Ready siRNA that will be administered to animals.			
	Resuspension of Annealed In Vivo Ready siRNA for Delivery to Animals Briefly centrifuge the tube to ensure that the dried oligonucleotide is at the bottom of the tube. Resuspend the oligonucleotide in a sterile buffer appropriate for your application. Common examples are provided below.			
	Systemic delivery			
	Sterile, phosphate buffered saline (PBS)			
	• Sterile saline (0.9% NaCl), or variants containing sugars such as mannitol or glucose (5–15%)			
	 Ringer's solution: 147 mM NaCl, 4 mM KCl, 1.13 mM CaCl₂ 			
	Central Nervo	us System delivery		
	 Non-irritating buffers such as sterile saline (0.9% NaCl) or isotonic buffer (100 mM potassium acetate, 30 mM HEPES–KOH, 2 mM magnesium acetate, 26 mM NaCl, pH 7.4) 			
	siRNAs have been administered to animals at concentrations up to 400 μ M. Typical volumes for systemic delivery range from 100–200 μ L (for low pressure injection) at concentrations of 75–300 μ M. This corresponds to a dosing range of 5–20 mg/kg for a 25 g mouse. In Vivo Ready siRNAs are soluble in aqueous solution at concentrations up to 1.5 mM.			
	Suggested dosing for a 25 g mouse with a typical siRNA			
	Dose	nmol siRNA per dose	Concentration for 200 µL dose (µM)	
	1.0	1.93	9.6	

1.0	1.93	9.6
5.0	9.63	48.1
10.0	19.25	96.3
15.0	28.88	144.4
20.0	38.50	192.5

Visit the online calculator for suspension of dry oligonucleotides at www.ambion.com/techlib/append/oligo_dilution.html

The conductance of a 50 µM solution of In Vivo Ready siRNA in water is less than 1 microsiemens (µS).

Store the resuspended siRNA at or below -20° C. **Do not store in a frost-free freezer**. For long term storage, RNA oligonucleotides may be stored at or below -70° C.

Applications:

Route of Aministration

A number of different injection routes have been established for delivery of oligonucleotides, such as systemic delivery through the tail vein (TV) or local delivery through intraperitoneal (IP), intranasal (IN), intramuscular (IM), intratracheal (ITr), intrathecal (ITh), intratumoral (ITu) or subcutaneous (SC) administration. In Vivo Ready siRNAs can be delivered using the above routes either through a single bolus injection or via continuous infusion using an osmotic mini-pump.

Visit the In Vivo Ready siRNA resource for more information on buffers and injection routes: www.ambion.com/RNAi/invivo

Dosing Strategy

Continuous infusions have been carried out in animal models for as long as 2 weeks; bolus injections have been given as many as three times a day. For effective mRNA knockdown, both dosage and dosing strategy may need adjustment based on the clearance of the siRNA from the target tissue.

For example, a majority of systemically delivered siRNA is excreted through the kidneys; thus continuous infusion or multiple bolus injections in a week might be an appropriate dosing strategy.

Local delivery, on the other hand, may allow siRNA to prevail longer in the tissue of interest, if clearance is limited. As an example, Applied Biosystems/Ambion scientists have found siRNAs to persist in lung tissue for many days, as routes of clearance are not easily available. Thus an understanding of routes of clearance for the target tissue helps to identify an appropriate dosing strategy.

RELATED PRODUCTS

Silencer® Pre-designed and Validated siRNAs

P/N Various (see www.ambion.com/siRNA) Guaranteed-to-silence siRNAs available to all human, mouse, and rat genes. Use the GeneAssist[™] tools at www.appliedbiosystems.com/geneassist to find siRNAs to your genes of interest.

Silencer[®] siRNA Libraries

See www.ambion.com/siRNA

Sets of siRNAs, designed for maximum potency and specificity, to genomes or gene classes.

TaqMan[®] Gene Expression Assays

www.allgenes.com or www.ambion.com/geneassist

A comprehensive collection of over 700,000 probe and primer sets for quantitative gene expression analysis using real-time PCR. Search the GeneAssist™ Atlas at www.ambion.com/geneassist to find suggested TaqMan Gene Expression Assays for the gene targeted by an siRNA of interest.

QUALITY CONTROL

A sample of each RNA oligonucleotide is analyzed by MALDI-TOF mass spectrometry. Analytical HPLC is used to monitor purity of HPLC-purified oligonucleotides. Annealing of siRNAs is assessed by gel electrophoresis. A sample is endotoxin tested.

MADE-TO-ORDER siRNAs

Pre-designed, Validated, and Custom In Vivo Ready siRNA Products

Silencer® In Vivo Ready Pre-Designed siRNAs

Designed for maximum potency and specificity, using one of the most rigorously tested siRNA design algorithms in the industry, and available for the human, mouse, and rat genomes.

Type/Format	Purification Method	Purity	Amount	Catalog # (P/N)
Pre-designed, Annealed	In Vivo Ready	≥95%	100 nmol	AM16830
Pre-designed, Annealed	In Vivo Ready	≥95%	250 nmol	AM16831
Pre-designed, Annealed	In Vivo Ready	≥95%	1 µmol	AM16832
Pre-designed, Annealed	In Vivo Ready	≥95%	10 µmol	AM16833

Silencer® In Vivo Ready Validated siRNAs

Individual siRNA duplexes that have been verified experimentally to reduce the expression of their individual target genes. Each siRNA was designed using one of the most rigorously tested siRNA design algorithms in the industry.

Type/Format	Purification Method	Purity	Amount	Catalog # (P/N)
Validated, Annealed	In Vivo Ready	≥95%	100 nmol	AM51340
Validated, Annealed	In Vivo Ready	≥95%	250 nmol	AM51341
Validated, Annealed	In Vivo Ready	≥95%	1 µmol	AM51342
Validated, Annealed	In Vivo Ready	≥95%	10 µmol	AM51343

Custom In Vivo Ready siRNAs Synthesized based on customer-provided target sequence, or sense and antisense siRNA sequences.

Type/Format	Purification Method	Purity	Amount	Catalog # (P/N)
Custom, Annealed	In Vivo Ready	≥95%	100 nmol	AM16230
Custom, Annealed	In Vivo Ready	≥95%	250 nmol	AM16231
Custom, Annealed	In Vivo Ready	≥95%	1 µmol	AM16232
Custom, Annealed	In Vivo Ready	≥95%	10 µmol	AM16233

OTHER INFORMATION

Material Safety Data Sheets:	Material Safety Data Sheets (MSDSs) can be printed or downloaded from product-specific links on our website at the following address: www.ambion.com/techlib/msds. Alternatively, e-mail your request to MSDS_Inquiry_CCRM@appliedbiosystems.com. Specify the catalog or part number(s) of the product(s), and we will e-mail the associated MSDSs unless you specify a preference for fax delivery. For customers without access to the internet or fax, our technical service department can fulfill MSDS requests placed by telephone or postal mail. (Requests for postal delivery require 1–2 weeks for processing.)
Warranty and Liability:	For research use only. Not for use in diagnostic procedures.
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