

Life Science Research
Gene Silencing/RNAi



Gene Silencing/RNAi



Description

Design and synthesis of multiple specific small inhibitory RNAs (siRNAs) and short hairpin RNAs (shRNAs)

Delivery of selected siRNA plasmid or expression cassette to cultured cells

Applications

- Gene silencing and gene expression analysis
- Gene silencing and protein expression analysis
- Gene silencing and mRNA quantitation
- Spotting of siRNA



Technologies

siRNA or shRNA design

- Lipid-mediated transfection
- Electroporation
- Biolytic particle delivery
- Microinjection
- Chemically mediated transfection
- Vector-mediated transfection

Related Products



- siLentMer™ validated Dicer-substrate siRNA duplexes
- siLentMer predesigned Dicer-substrate siRNA duplexes
- siLentMer delivery optimization kit
- siLentMer starter kits
- siLentMer total control kits



- siLentFect™ lipid reagent for RNAi
- TransFectin™ lipid reagent
- Gene Pulser®/MicroPulser™ cuvettes
- Gene Pulser Xcell™ total system
- Helios® gene gun system
- PDS-1000/He™ system



Purification of mRNA and/or protein and sample quality assessment

Monitoring of gene silencing via gene expression at mRNA and/or protein level

Gene and Protein Expression Profile

RNA interference (RNAi) is one of the most powerful and widely used techniques available for the specific inhibition of gene expression. Using RNAi, researchers can specifically and potently modulate the expression of target genes. By analyzing resulting changes in gene expression at both the protein and RNA level, researchers are rapidly advancing the understanding of gene function. Performing RNAi experiments involves several steps, and at each step it is important to eliminate variables, use appropriate controls, and work with reagents and instrumentation that provide sensitive, reliable results. Bio-Rad simplifies the RNAi workflow by providing scientists a broad range of RNA solutions, featuring validated siRNAs and the most comprehensive suite of delivery and detection tools for genomics and proteomics research — a unique offering among life science suppliers. To learn more about Bio-Rad’s RNAi-enabling technologies, visit us on the Web at www.bio-rad.com/RNAi/ or contact your local Bio-Rad office.

Protein

mRNA

Protein sample preparation

Nucleic acid sample preparation

Protein

mRNA

Automated protein electrophoresis
 Protein electrophoresis
 2-D electrophoresis
 Protein blotting
 Multiplex suspension array technology — protein
 Microarray analysis
 Image analysis
 Data analysis and bioinformatics

Automated nucleic acid electrophoresis
 Nucleic acid electrophoresis
 Nucleic acid blotting
 Quantitative PCR (qPCR)
 Microarray analysis
 Image analysis
 Data analysis and bioinformatics




Aurum™ total RNA kits
 PureZOL™ RNA isolation reagent
 ReadyPrep™ protein extraction kit (total protein)
 ReadyPrep 2-D cleanup kit
 Laemmli sample buffer



Experion™ automated electrophoresis system
 iQ™5 multicolor real-time PCR detection system
 PROTEAN® IEF system
 BioOdyssey™ Calligrapher™ miniarrayer
 Bio-Plex® 200 system

For a complete list of products and related product information, refer to the 2006/2007 catalog, visit us on the Web at www.bio-rad.com, or contact your local Bio-Rad representative.

Ordering Information

Catalog #	Description	Catalog #	Description
siRNA or shRNA Design		Detection and Analysis	
siLentMer Dicer-Substrate siRNA Duplexes		170-9780	iQ5 Multicolor Real-Time PCR Detection System , includes iCycler base, optics module, software CD-ROM, 5 installed filter sets, 96-well reaction module, calibration solutions, optical-quality 96-well PCR plates, Microseal 'B' seals, communication cables, power cord, quick reference cards, instructions
Varies	siLentMer Validated Dicer-Substrate siRNA Duplexes , 2 nmol, designed with proven criteria and functionally tested for ≥85% silencing	165-4000	PROTEAN IEF System , 90–240 VAC
Varies	siLentMer Predesigned Dicer-Substrate siRNA Duplexes , 2 nmol, designed with proven criteria	169-2000	BioOdyssey Calligrapher MiniArrayer , 115 V
siLentMer Delivery Optimization Kit		163-2105	ReadyPrep 2-D Starter Kit , includes protein sample and reagents sufficient to rehydrate, focus, and transfer to second-dimension gels six 17 cm, ten 11 cm, or sixteen 7 cm ReadyStrip IPG strips (IPG strips and precast SDS-PAGE gels and gel stains not included)
174-9950	siLentMer Delivery Optimization Kit , includes 1.0 nmol fluorescently labeled siLentMer nonsilencing siRNA, 0.2 ml siLentFect lipid reagent, 1.0 ml siLentMer siRNA resuspension buffer	161-0490	Flamingo Fluorescent Gel Stain , 10x solution, 20 ml
siLentMer Starter Kits		161-0449	Silver Stain Plus™ Kit , includes fixative enhancer concentrate, silver complex solution, reduction moderator solution, image development reagent, development accelerator reagent
174-9960	siLentMer Starter Kit for Human GAPDH , includes siLentMer validated human GAPDH siRNA, siLentMer nonsilencing siRNA, siLentFect lipid reagent, siLentMer siRNA resuspension buffer	Varies	ReadyStrip™ IPG Strips
174-9961	siLentMer Starter Kit for GFP , includes siLentMer validated GFP siRNA, siLentMer nonsilencing siRNA, siLentFect lipid reagent, siLentMer siRNA resuspension buffer	Varies	Criterion Gels
siLentMer Total Control Kits*		171-000201	Bio-Plex 200 System
174-9970	siLentMer Total Control Kit for Human GAPDH	700-7000	Experion System , for protein analysis (analysis kits sold separately)
174-9971	siLentMer Total Control Kit for Human HPRT	700-7102	Experion Pro260 Analysis Kit for 25 Chips , includes 25 Pro260 chips, Experion Pro260 reagents and supplies for 25 chips
174-9972	siLentMer Total Control Kit for Human Lamin A/C	700-7104	Experion RNA StdSens Analysis Kit for 25 Chips , includes 25 RNA StdSens chips, Experion RNA StdSens reagents and supplies for 25 chips
174-9973	siLentMer Total Control Kit for Human Cyclophilin	700-7106	Experion RNA HighSens Analysis Kit for 25 Chips , includes 25 RNA HighSens chips, Experion RNA HighSens reagents and supplies for 25 chips
174-9974	siLentMer Total Control Kit for Human β-Actin		
174-9975	siLentMer Total Control Kit for Human β-Tubulin		
174-9976	siLentMer Total Control Kit for GFP		
174-9977	siLentMer Total Control Kit for Luciferase		
* Kits include siLentMer validated siRNA, fluorescently labeled siLentMer nonsilencing siRNA, siLentMer nonsilencing siRNA, siLentFect lipid reagent, siLentMer siRNA resuspension buffer		siLentMer products are manufactured by Integrated DNA Technologies, Inc. (IDT) and are for research use only. For custom siRNA synthesis, contact IDT.	
Transfection		Biological technology is covered by patents owned by E.I. du Pont de Nemours and Co. The technology is exclusively licensed to Bio-Rad Laboratories, Inc.	
170-3360	siLentFect Lipid Reagent for RNAi , 0.5 ml	Certain arrays and/or the method of preparation, analysis, or use may be covered by patents or other intellectual property rights owned by third parties.	
170-3350	TransFectin Lipid Reagent , 0.5 ml	The Bio-Plex suspension array system includes fluorescently labeled microspheres and instrumentation licensed to Bio-Rad Laboratories, Inc. by the Luminex Corporation.	
165-2088	Gene Pulser/MicroPulser Cuvettes , 0.4 cm gap, 50	Bio-Rad's real-time thermal cyclers are licensed real-time thermal cyclers under Applera's United States Patent No. 6,814,934 B1 for use in research and for all other fields except the fields of human diagnostics and veterinary diagnostics.	
165-2660	Gene Pulser Xcell Total System , for mammalian and microbial cells, includes main unit, CE module, PC module, ShockPod chamber, 15 sterile cuvettes, instructions		
165-2431	Helios Gene Gun System , 100/120 V		
165-2432	Helios Gene Gun System , 220/240 V		
165-2257	PDS-1000/He System		
Sample Preparation		 LabChip and the LabChip logo are trademarks of Caliper Life Sciences, Inc. Bio-Rad Laboratories, Inc. is licensed by Caliper Life Sciences, Inc. to sell products using the LabChip technology for research use only.	
732-6800	Aurum Total RNA 96 Kit , 2 x 96-well preps		
732-6890	PureZOL RNA Isolation Reagent , 100 ml		
732-6370	ReadyPrep Protein Extraction Kit (Total Protein) , 20 preps		
163-2130	ReadyPrep 2-D Cleanup Kit , 50 preps		
161-0737	Laemmli Sample Buffer , 30 ml		



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