

NimbleGen Sequence Capture 2.1M and 385K Arrays: Equipment and Reagent Requirements

Roche NimbleGen has validated the following equipment and reagents for processing NimbleGen Sequence Capture arrays.

NimbleGen Equipment

Choose between the 4- or 12-bay NimbleGen Hybridization Systems.

Equipment	Supplier	Process Quantity	Item Number
NimbleGen Hybridization System 4	Roche NimbleGen	4 slides	05223652001 (110V)
			05223687001 (220V)
NimbleGen Hybridization System 12	Roche NimbleGen	12 slides	05223679001 (110V)
			05223695001 (220V)
NimbleGen Elution System	Roche NimbleGen	1 slide	05329752001

* NimbleGen Hybridization Systems include an accessory kit that contains Precision Mixer Alignment Tool (PMAT), Mixer Disassembly Tool, Mixer Brayer, System Verification Assemblies, replacement O-rings, and forceps.

General Laboratory Equipment

Equipment	Supplier	Item Number
Sonicator 4000	Misonix	S-4000
MicroAmp Optical 96-Well Reaction Plate	Applied Biosystems	N801-0560
AlumaSeal II Film (1.5ml, pressure foil seals)	Phenix Research Products	LMTALUMAIL
Nitrogen or Argon Tank with 1 - 125psi regulator	VWR	55850-700
GS Nebulizers Kit (for nebulization only)	Roche Applied Science	05160570001
Conical Tubes (15ml sterile screw cap)	<i>Multiple Vendors</i>	
Syringe Filter (0.2µ, surfactant free, cellulose acetate - SFCA)	<i>Multiple Vendors</i>	
Dynal MPC-S (6 x 1.5ml tube holder)	Invitrogen	120-20D
Desiccator	<i>Multiple Vendors</i>	
Electrophoresis System	<i>Multiple Vendors</i>	
Heat Block (capable of temperatures to 120°C)	<i>Multiple Vendors</i> (Recommend the 6-bay digital hot block from VWR, #126210100)	
Microcentrifuge with Multiplate Adaptors (12,000 x g capability)	<i>Multiple Vendors</i>	

General Laboratory Equipment, continued

Equipment	Supplier	Item Number
Microman M100 Pipette	Gilson	F148504
CP100 Capillary Pistons	Gilson	F148314
Microfuge Tubes (1.5ml)	Ambion	12400
Pipettor Basin (multichannel, 100ml, case of 200)	VWR	82026-356
Spectrophotometer	NanoDrop	ND-1000
Bioanalyzer 2100	Agilent	
Washing Tubes (1,000 tubes)	Fisher Scientific	05-553-4
Disposable Forceps (100 forceps)	Cole-Parmer	EW-06443-20
LightCycler [®] 480 Instrument II	Roche Applied Science	05015243001 (384-well) or 05015278001 (96-well)
Genome Sequencer FLX Instrument	Roche Applied Science	04896548001
SpeedVac (1.5ml tubes)	Thermo Savant	
Thermocycler	Multiple Vendors	
Vortex Mixer	Multiple Vendors	

Consumables & Accessories from Roche NimbleGen

Equipment	Package Size / Process Quantity	Item Number
NimbleGen X1 Mixer (includes mixer port seals)	10 mixers	05223725001
NimbleGen HX1 Mixer (includes mixer port seals)	10 mixers	05223741001
NimbleGen Sequence Capture Hybridization Kit	60 hybridizations	05340721001
NimbleGen Sequence Capture Wash and Elution Kit	15 washes and elutions	05340730001
Elution Chamber ES1 ¹	1 chamber & 1 gasket	05329809001
Elution Chamber EL1 ²	1 chamber & 1 gasket	05329817001
Elution System Retaining Ring (only order if replacement is needed) ³	1 retaining ring	05329787001

¹ An Elution Chamber ES1, included with a NimbleGen Sequence Capture 385K array, can be purchased separately.

² An Elution Chamber EL1, included with a NimbleGen Sequence Capture 2.1M array, can be purchased separately.

³ An Elution System Retaining Ring, included with a NimbleGen Elution System, can be ordered as a replacement part

Contents of NimbleGen Sequence Capture Kits

Kit	Contents
NimbleGen Sequence Capture Hybridization Kit	<ul style="list-style-type: none"> • 2X Sequence Capture Hybridization Buffer • Sequence Capture Hybridization Component A
NimbleGen Sequence Capture Wash and Elution Kit	<ul style="list-style-type: none"> • 2X Stringent Wash Buffer • 10X Sequence Capture Wash Buffer I • 10X Sequence Capture Wash Buffer II • 10X Sequence Capture Wash Buffer III • Elution Reagent

Consumables from Other Vendors

Choose between sonication or nebulization for fragmentation of genomic DNA.

Component	Supplier	Package Size	Item Number
100X BSA	NEB	10mg/ml	B9001S
100mM ATP (ribonucleotide)	Roche Applied Science	40µmol	11140965001
0.5M EDTA, pH 8.0	Sigma Aldrich	100ml	E7889
1M MgCl₂	Sigma Aldrich	100ml	M1028
1M Tris HCl, pH 7.8	Sigma Aldrich	1 liter	T-2913
1M Tris HCl, pH 7.5 (for nebulization only)	Fisher Scientific	500ml	BP1757-500
Glycerol (for nebulization only)	<i>Multiple Vendors</i>		
5M NaCl	Sigma Aldrich	250ml	71386
70% Ethanol	<i>Multiple Vendors</i>		
Tween 20	Sigma Aldrich	100ml	P7949
Compressed Gas	<i>Multiple Vendors</i>		
CP100 Pipette Tips	Gilson	192 tips	F148414
		960 tips	F148314
T4 DNA Polymerase & Buffer 2	NEB	3U/µl	M0203L
DNA Clean and Concentrator-25 kit	Zymo Research	50 preps	D4033
T4 Polynucleotide Kinase (3' phosphatase minus)	NEB	10U/µl	M0236L
T4 DNA Ligase	NEB	400U/µl	M0202L
AMPure DNA Purification Beads	Agencourt	60	APN000130
Water (reagent grade, ACS, nonsterile, type 1)	VWR	2.5 gallon	RC915025
Bioanalyzer 2100 DNA Chip 7500 Kit	Agilent	25 chips	5067-1506
Bioanalyzer 2100 DNA Chip 1000 Kit	Agilent	25 chips	5067-1504
Bioanalyzer 2100 RNA 6000 Pico Kit	Agilent	25 chips	5067-1511
10X ThermoPol Reaction Buffer	NEB	4 x 1.5ml	B9004S
25mM dNTP	Epicentre	10µmoles	059104
Taq DNA Polymerase	Qiagen	5U/µl	201203
PfuTurbo® DNA Polymerase	Stratagene	2.5U/µl	600252
LightCycler® 480 Multiwell Plate 384 (with sealing foils)	Roche Applied Science	5 x 10 plates	04729749001
LightCycler® 480 SYBR Green I Master (2X Mix)	Roche Applied Science	5 x 1ml	04707516001
Cot-1 DNA	Invitrogen	1mg/ml	15279-011
Water (PCR-grade)	Roche Applied Science	25 x 1ml	03315932001
10bp DNA Step Ladder	Promega	0.65µg/µl	G4471

Consumables for the Genome Sequencer FLX Instrument

Component	Supplier	Package Size	Item Number
GS DNA Library Preparation Kit	Roche Applied Science	10 library preparations	04852265001
Tris-EDTA, 1X (pH 8.0)	Fisher Scientific	1 liter	BP2473-1
MinElute PCR Purification Kit (250)	Qiagen	250 purifications	28006

Oligonucleotide Consumables

Component	Supplier	Concentration	Sequence
gSel3 DNA Oligo	IDT	4,000 μ M	5' - CTC GAG AAT TCT GGA TCC TC - 3'
gSel4-P_i DNA Oligo	IDT	4,000 μ M	5' - Phos/GAG GAT CCA GAA TTC TCG AGT T -3'
LMPCR3 DNA Oligo	IDT	40 μ M	5' - CUC GAG AAU UCU GGA UCC UC - 3'
qPCR custom oligo #1, forward*	IDT	2 μ M	5' - CGC ATT CCT CAT CCC AGT ATG - 3'
qPCR custom oligo #1, reverse	IDT	2 μ M	5' - AAA GGA CTT GGT GCA GAG TTC AG - 3'
qPCR custom oligo #2, forward	IDT	2 μ M	5' - CCC ACC GCC TTC GAC AT - 3'
qPCR custom oligo #2, reverse	IDT	2 μ M	5' - CCT GCT TAC TGT GGG CTC TTG - 3'
qPCR custom oligo #3, forward	IDT	2 μ M	5' - CTC GCT TAA CCA GAC TCA TCT ACT GT - 3'
qPCR custom oligo #3, reverse	IDT	2 μ M	5' - ACT TGG CTC AGC TGT ATG AAG GT - 3'
qPCR custom oligo #4, forward	IDT	2 μ M	5' - CAG CCC CAG CTC AGG TAC AG - 3'
qPCR custom oligo #4, reverse	IDT	2 μ M	5' - ATG ATG CGA GTG CTG ATG ATG - 3'

* The custom oligos are used in qPCR analysis, described in the *NimbleGen Arrays User's Guide: Sequence Capture Array Delivery*.

Contact: Roche NimbleGen, Inc.

Toll-free in US: (877) NimbleGen / (877) 646-2534

(608) 218-7600

www.nimblegen.com/arrayssupport



HIGH - DEFINITION GENOMICS

© 2009 Roche NimbleGen, Inc. All Rights Reserved.

05359724001 • Original Publication 7/08 • Reprint 1/09

For life science research only.

GENOME SEQUENCER, NIMBLEGEN, and LIGHTCYCLER are trademarks of Roche.

Other brands or product names are trademarks of their respective holders.



Roche NimbleGen, Inc.
504 S. Rosa Road
Madison, WI 53719 USA