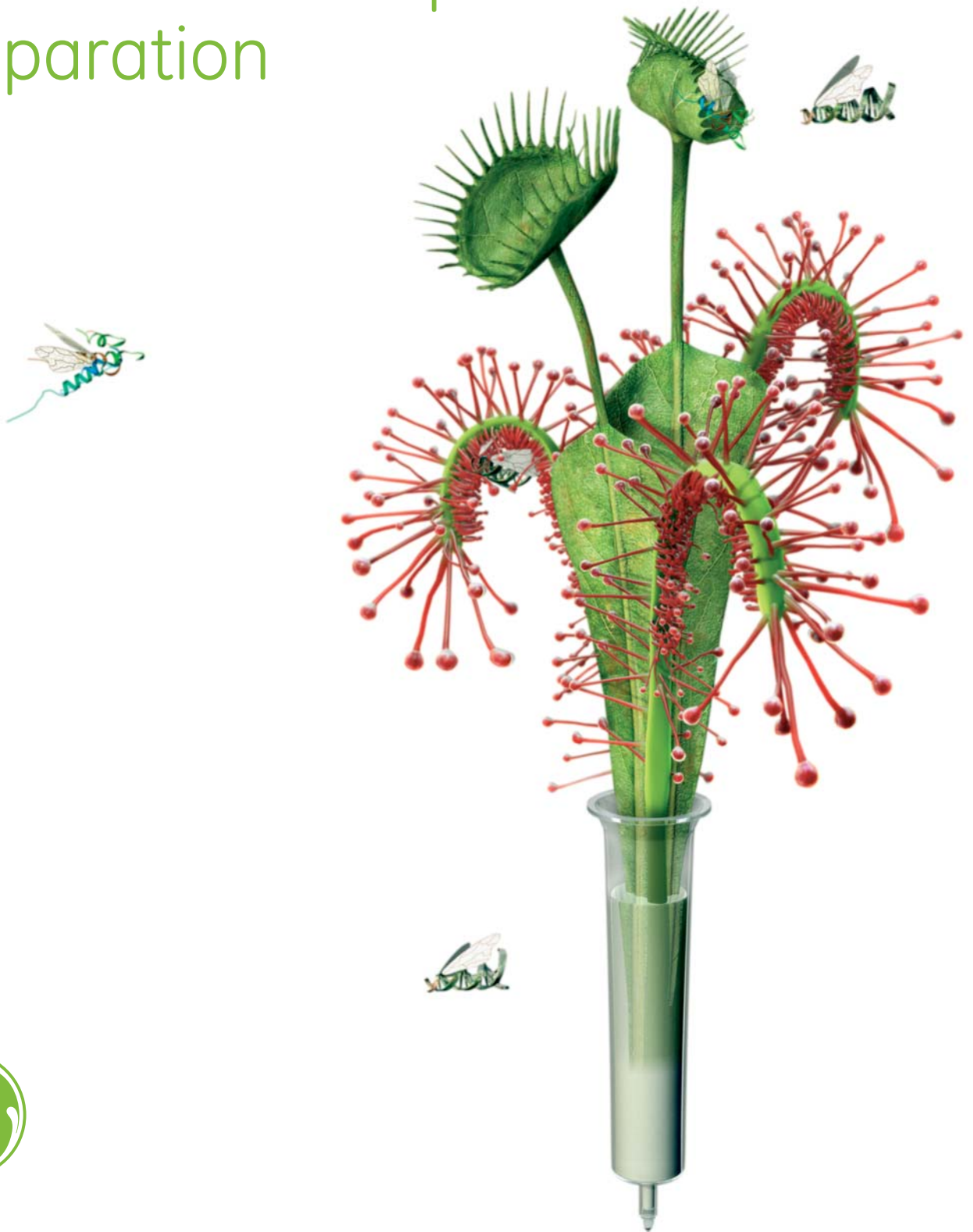


Selection guide for nucleic acid sample preparation



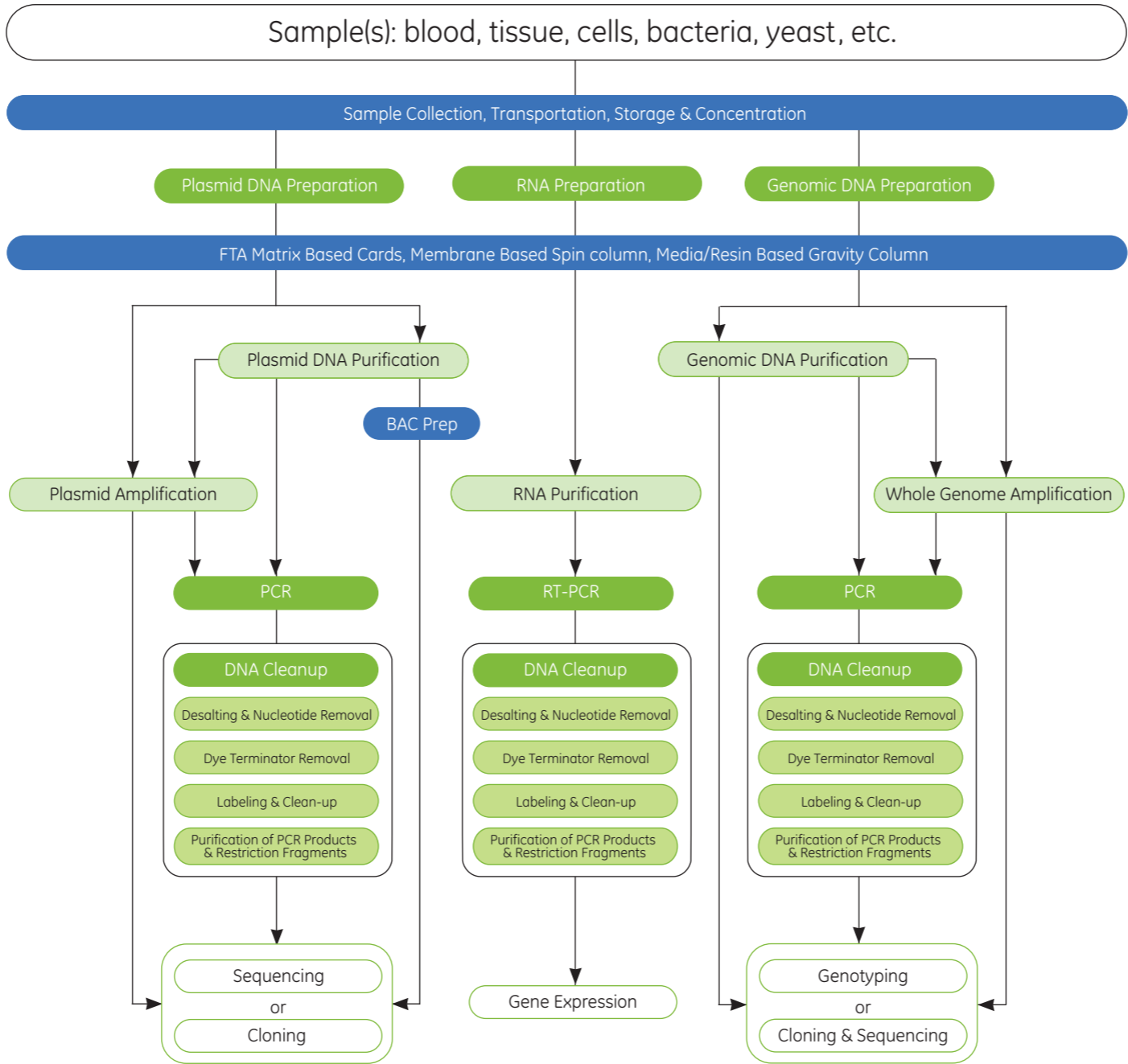
Nucleic Acid Workflow

Genome and Gene Analysis

FTA & FTA Elute

FTA & FTA Elute
 FTA CloneSaver
 GenSpin
 Elu-Quik
 UNIFILTER
 UniVac

UNIFILTER
 Elutip-d
 Elutrap



Sample

Analyte

Format

Intermediate Application

Final Application

Selection Guide for DNA/RNA Sample Prep – illustra

PCR and RT-PCR

Amplification method	Starting quantity	Hot Start Mix RTG*	Hot Start Master Mix	PuReTaq RTG* PCR	RTG* RT-PCR	Fidelity PCR Master Mix	Fidelity PCR Master Mix (2x)	Fidelity RT-PCR Master Mix (2x)
PCR	Basic PCR (amplicon up to 3 kb)	•	•	•				
	Hot start PCR (amplicon up to 3 kb)	•	•					
	Long range PCR (amplicon up to 20 kb)					•	•	
RT-PCR	Basic RT-PCR (amplicon up to 3 kb)			•	•			
	Long range RT-PCR (amplicon up to 6 kb)							•
Downstream applications	Genotyping	•	•	•	•	•	•	•
	Cloning & sequencing	•	•	•	•	•	•	•
	Gene expression	•	•	•	•	•	•	•

*RTG is an abbreviation of Ready-To-Go, a single dose room temperature stable bead format that contains all PCR or RT-PCR components. You just need to add DNA template, primer and water for a reaction.

DNA Clean-up

Sample types	Starting quantity	ExoSAP-IT	GFX PCR and Gel Band	GFX 96 PCR	MicroSpin G-25	AutoSeq G-50	ProbeQuant G-50	NICK columns	NAP-5 columns	NAP-10 columns	NAP-25 columns	CyScribe GFX	MicroSpin G-50	MicroSpin S-200	MicroSpin S-300	MicroSpin S-400
PCR products	Any size, for sequencing only	•														
	50 bp to 10 kb, few samples		•													
	100 bp to 10 kb, many samples			•												
	10 to 50 bp				•											
Agarose gel slices or enzyme removal	50 kbp to 10 bp		•													
Sequencing reactions	12 to 25 µl				•											
Labeled DNA fragments	> 20 bases					•										
	> 10 bases					•										
	100 µg sample in 100 µl or no microcentrifuge						•									
Oligonucleotides	100 to 150 µl			•												
	0.1 to 0.5 ml						•									
	0.5 to 1 ml							•								
	1 to 2.5 ml								•							
cDNA	CyDye labeled probes										•					
A range of sample types	25 to 50 µl for labeled DNA												•			
	PCR, sequencing and labeling reactions													•		
A range of volumes and sample sizes	PCR (25 to 50 µl) or labeling reaction (25 to 50 µl) < 100 bp														•	
	PCR (25 to 50 µl) or labeling reaction (50 to 75 µl) or fragment < 200 bp															•
	PCR (50 to 100 µl) or labeling reaction (75 to 100 µl) or remove primers > 24 bases															•
Downstream applications	Cloning & sequencing	•	•	•	•	•		•	•	•		•	•	•	•	•
	Gene expression		•	•	•		•	•	•	•	•	•	•	•	•	•
	Genotyping		•	•	•								•	•	•	•

Plasmid DNA Preparation

Sample types	Starting quantity	plasmidPrep Mini	plasmidPrep Midi	Templiphi HT*	Templiphi 100/500*	Templiphi Large Construct*	Templiphi Sequence Resolver Kit*
Bacterial culture	1 µl (high throughput)		•				
	1 µl (low to medium throughput)			•			
	1 to 3 ml	•					
	25 to 500 ml		•				
Bacterial colony	< 1 colony (high throughput)		•				
	< 1 colony (low to medium throughput)			•			
Bacteria glycerol stock	< 1 µl (high throughput)		•				
	< 1 µl (low to medium throughput)			•			
Purified DNA (small vectors)	> 1 ng (high throughput)		•				
	> 1 ng (low to medium throughput)			•			
Purified BAC/fosmid DNA	> 1 ng				•		
Difficult templates (GC rich, secondary structures)	0.1 to 1 ng						•
M13 phage plaque	< 1 plaque		•	•			
M13 phage glycerol stock	< 1 µl		•	•			
Downstream applications	Cloning	•	•				
	Sequencing	•	•	•	•	•	•

*Can be used directly for PCR and subcloning. Additional steps will be needed for transformation or transfection

RNA Preparation

Sample type and format	Starting quantity	RNAspin Mini	RNAspin Midi	RNAspin 96	QuickPrep mRNA	QuickPrep Micro mRNA	mRNA Purification Kit
Total RNA							
Cultured cells and tissue	Up to 200 mg tissue or 5 × 10 ⁷ cells		•				
	Tube format	•					
96-well plate vacuum	10 to 30 mg or up to 2 × 10 ⁶ cells			•			
96-well plate centrifuge	30 mg or up to 1 × 10 ⁷ cells			•			
mRNA purification	1 to 5 × 10 ⁷ cells or 0.5 g tissue				•		
Eukaryotic cells or tissue	1 to 1 × 10 ⁷ cells or 100 mg tissue				•		
Eukaryotic total RNA	Total RNA or 25 mg to 1 g tissue						•
Downstream applications	Gene expression	•	•	•	•	•	•

Genomic DNA Preparation

Sample types	Starting quantity (DNA yield)	tissue & cells Mini Spin	tissue & cells Midi Flow	blood Mini Spin	blood Midi Flow	bacteria Mini Spin	BACC1	BACC2 & BACC3	Nucleon HT	Phytopure	Genomiphi V2	Genomiphi HY
Animal tissue	> 300 cells (4 to 7 µg DNA yield)									•		
	> 300 cells (40 to 50 µg DNA yield)											•
Paraffin-embedded tissue or difficult samples	5 to 50 mg	•										
	Up to 200 mg		•									
Cultured cells	Up to 25 mg							•				
	30 m paraffin section							•				
Blood	> 300 cells (4 to 7 µg DNA yield)									•		
	> 300 cells (40 to 50 µg DNA yield)											•
	Up to 5.0 × 10 ⁵ cells	•										
	1 to 3 × 10 ⁵					•						
	Up to 2.0 × 10 ⁷ cells		•									
Buffy coat	3 × 10 ⁶ to 1 × 10 ⁷ cells						•					
	5 to 10 µl (4 to 7 µg DNA yield)									•		
	5 to 10 µl (40 to 50 µg DNA yield)											•
	50 to 300 µl			•								
	1 ml					•						
Nucleated red blood cells	1 to 8 ml				•							
	10 ml						•					
	5 to 10 µl (4 to 7 µg DNA yield)									•		
Bone marrow (suspended cells)	5 to 10 µl (40 to 50 µg DNA yield)											•
	200 µl			•								
	25 to 200 µl (tested)					•						
Bacteria (Gram - and +)	5 to 10 µl (4 to 7 µg DNA yield)									•		
	5 to 10 µl (40 to 50 µg DNA yield)											•
	> 300 cells (4 to 7 µg DNA yield)									•		
	> 300 cells (40 to 50 µg DNA yield)											•
Plants	Up to 4.0 × 10 ⁹				•							
	1 cm leaf (4 to 7 µg DNA yield)									•		
	1 cm leaf (40 to 50 µg DNA yield)											•
	1 seed (4 to 7 µg DNA yield)									•		
	1 seed (40 to 50 µg DNA yield)											•
FTA paper/Guthrie card	Up to 1.0 g								•			
	3 × 3 mm piece (4 to 7 µg DNA yield)									•		
Buccal swab	3 × 3 mm piece (40 to 50 µg DNA yield)											•
	Single swab			•								
	Single swab (4 to 7 µg DNA yield)									•		
Purified genomic DNA	Single swab (40 to 50 µg DNA yield)											•
	> 10 ng (4 to 7 µg DNA yield)									•		
Downstream applications	> 10 ng (40 to 50 µg DNA yield)											•
	Genotyping	•	•	•	•	•	•	•	•	•	•	•
	Cloning & sequencing	•	•	•	•	•	•	•	•	•	•	•

Ordering information

illustra Nucleic Acid Purification & Amplification

Product	Pack size	Code number
Genomic DNA Preparation		
Genomic DNA Purification		
illustra™ tissue and cells genomicPrep™ Mini Spin Kit	50	28-9042-75
illustra tissue and cells genomicPrep Mini Spin Kit	250	28-9042-76
illustra tissue and cells genomicPrep Midi Flow Kit	25	28-9042-73
illustra blood genomicPrep Mini Spin Kit	50	28-9042-64
illustra blood genomicPrep Mini Spin Kit	250	28-9042-65
illustra blood genomicPrep Midi Flow Kit	25	28-9042-61
illustra blood genomicPrep Midi Flow Kit	100	28-9042-62
illustra bacteria genomicPrep Mini Spin Kit	50	28-9042-58
illustra bacteria genomicPrep Mini Spin Kit	250	28-9042-59
Nucleon™ BACC1 Genomic DNA Kit	50	RPN8501
Nucleon BACC2 Genomic DNA Kit	50	RPN8502
Nucleon BACC3 Genomic DNA Kit	50	RPN8512
Nucleon PhytoPure™	50 x 0.1g	RPN8510
Nucleon PhytoPure	50 x 1.0g	RPN8511
Nucleon HT (hard tissue)	50	RPN8509
Whole Genome Amplification		
illustra GenomiPhi™ V2 DNA Amplification Kit	25	25-6600-30
illustra GenomiPhi V2 DNA Amplification Kit	100	25-6600-31
illustra GenomiPhi V2 DNA Amplification Kit	500	25-6600-32
illustra GenomiPhi HY DNA Amplification Kit	25	25-6600-22
illustra GenomiPhi HY DNA Amplification Kit	100	25-6600-20
illustra GenomiPhi HY DNA Amplification Kit	1000	25-6600-25
Plasmid DNA Preparation		
Plasmid DNA Purification		
illustra plasmidPrep Mini Spin Kit	50	28-9042-69
illustra plasmidPrep Mini Spin Kit	250	28-9042-70
illustra plasmidPrep Midi Flow Kit	25	28-9042-67
illustra plasmidPrep Midi Flow Kit	100	28-9042-68
Sephacryl™ S-1000 SF	750 ml	17-0476-01
Yeast Plasmid Isolation Kit	50	US79220-50RXNS
Rolling Circle Amplification – Template Amplification		
illustra TempliPhi™ 100 DNA Amplification Kit	100	25-6400-10
illustra TempliPhi 500 DNA Amplification Kit	500	25-6400-50
illustra TempliPhi HT DNA Amplification Kit	10000	25-6400-20
illustra TempliPhi Large Construct Kit	1000	25-6400-80
illustra TempliPhi Sequence Resolver Kit	20 rxns	28-9035-29
illustra TempliPhi Sequence Resolver Kit	50 rxns	28-9035-30
illustra TempliPhi Sequence Resolver Kit	200 rxns	28-9035-31
RNA Preparation		
Total RNA		
illustra RNAspin Mini Kit	20	25-0500-70
illustra RNAspin Mini Kit	50	25-0500-71
illustra RNAspin Mini Kit	250	25-0500-72
illustra RNAspin Midi Kit	20	25-0500-73
illustra RNAspin 96 Kit	2 x 96	25-0500-74
illustra RNAspin 96 Kit	4 x 96	25-0500-75
illustra RNAspin 96 Kit	24 x 96	25-0500-76
illustra RNAspin 96 Filter Plate	1	25-0500-88
illustra CstFA (solution)	100 ml	17-0847-02
mRNA		
illustra QuickPrep™ Micro mRNA Purification Kit	1	27-9255-01
illustra QuickPrep mRNA Purification Kit	4	27-9254-01
illustra mRNA Purification Kit	2	27-9258-01
illustra mRNA Purification Kit	4	27-9258-02
PCR		
PCR Kits & Components		
illustra Hot Start Mix RTG 0.5 ml	100 rxn	28-9006-46
illustra Hot Start Mix RTG 0.2 ml	96 rxn	28-9006-53
illustra Hot Start Mix RTG 0.2 ml	480 rxn	28-9006-54
illustra Hot Start Master Mix	100	25-1500-01
illustra PuReTaq™ Ready-To-Go™ PCR Beads 0.2 ml	96 rxn plate	27-9557-01
illustra PuReTaq Ready-To-Go PCR Beads 0.2 ml	5 x 96 rxn plate	27-9557-02
illustra PuReTaq Ready-To-Go PCR Beads 0.5 ml	100 rxn tubes	27-9558-01
illustra PuReTaq Ready-To-Go PCR Beads 0.2 ml	96 rxn h-tube	27-9559-01
FideliTaq™ PCR Master Mix (2x)	100	E71182
FideliTaq PCR Master Mix (Plus)	100	E71183
illustra Ready-To-Go RAPD Analysis Beads	100	27-9500-01
illustra Ready-To-Go RAPD Analysis Kit	100 + 6 Primers	27-9502-01

Product	Pack size	Code number
RT-PCR		
RT-PCR Kits & Components		
illustra Ready-To-Go RT-PCR Beads 0.5 ml	100 rxn tubes	27-9266-01
illustra Ready-To-Go RT-PCR Beads 0.2 ml	96 rxn tube	27-9267-01
illustra Ready-To-Go RT-PCR Beads 0.2 ml	96 rxn h-tube	27-9259-01
RT-PCR Master Mix (2X)	100	E78370
FideliTaq RT-PCR Master Mix (2X)	100	E71185
DNA Clean-up		
Purification of PCR Products and Restriction Fragments		
illustra GFX™ PCR DNA and Gel Band Purification Kit	100	28-9034-70
illustra GFX PCR DNA and Gel Band Purification Kit	250	28-9034-71
illustra GFX 96 PCR Purification Kit	10 x 96	28-9034-45
illustra MicroSpin™ S-400 HR columns	50	27-5140-01
illustra MicroSpin S-300 HR columns	50	27-5130-01
illustra MicroSpin G-25 columns	50	27-5325-01
ExoSAP-IT™	100	US78200
ExoSAP-IT	500	US78201
ExoSAP-IT	2000	US78202
Dye Terminator Removal		
illustra AutoSeq™ G-50	50	27-5340-01
illustra AutoSeq G-50	250	27-5340-02
illustra AutoSeq G-50	1000	27-5340-03
illustra MicroSpin G-50 columns	50	27-5330-01
illustra MicroSpin G-50 columns	250	27-5330-02
illustra MicroSpin S-200 HR columns	50	27-5120-01
Labeling and Clean-up		
illustra CyScribe™ GFX Purification Kit	25	27-9606-01
illustra CyScribe GFX Purification Kit	50	27-9606-02
illustra NICK™ columns	20	17-0855-01
illustra NICK columns	50	17-0855-02
illustra ProbeQuant™ G-50 Micro columns	50	28-9034-08
Desalting and Nucleotide Removal		
illustra MicroSpin G-25 columns	50	27-5325-01
illustra NAP™-5	20	17-0853-01
illustra NAP-5	50	17-0853-02
illustra NAP-10	20	17-0854-01
illustra NAP-10	50	17-0854-02
illustra NAP-25	20	17-0852-01
illustra NAP-25	50	17-0852-02
illustra Sephadex™ G-25 DNA Grade SF	100 g	17-0572-02
illustra Sephadex G-50 DNA Grade F	25 g	17-0573-01
illustra Sephadex G-50 DNA Grade F	100 g	17-0573-02
illustra Sephadex G-100 DNA Grade SF	100 g	17-0574-02
Nucleotides		
illustra dATP, 100 mM	25 µmol	28-4065-01
illustra dATP, 100 mM	100 µmol	28-4065-02
illustra dATP, 100 mM	500 µmol	28-4065-03
illustra dCTP, 100 mM	25 µmol	28-4065-11
illustra dCTP, 100 mM	100 µmol	28-4065-12
illustra dCTP, 100 mM	500 µmol	28-4065-13
illustra dGTP, 100 mM	25 µmol	28-4065-21
illustra dGTP, 100 mM	100 µmol	28-4065-22
illustra dGTP, 100 mM	500 µmol	28-4065-23
illustra dTTP, 100 mM	25 µmol	28-4065-31
illustra dTTP, 100 mM	100 µmol	28-4065-32
illustra dTTP, 100 mM	500 µmol	28-4065-33
illustra dUTP, 100 mM	25 µmol	28-4065-41
illustra dUTP, 100 mM	100 µmol	28-4065-42
illustra dNTP Set (100 mM each A,C,G,T)	4 x 25 µmol	28-4065-51
illustra dNTP Set (100 mM each A,C,G,T)	4 x 100 µmol	28-4065-52
illustra dNTP Set (100 mM each A,C,G,T)	4 x 500 µmol	28-4065-53
illustra DNA Polymerization Mix dNTP Set (20 mM each A,C,G,T)	10 µmol	28-4065-57
illustra DNA Polymerization Mix dNTP Set (20 mM each A,C,G,T)	40 µmol	28-4065-58
illustra PCR Nucleotide Mix dNTP Set (25 mM each A,C,G,T)	500 µl	28-4065-60
illustra PCR Nucleotide Mix dNTP Set (2 mM each A,C,G,T)	1 ml	28-4065-62
illustra PCR Nucleotide Mix dNTP Set (10 mM each A,C,G,T)	500 µl	28-4065-64

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Phi 29 DNA Polymerase: Phi 29 DNA polymerase and its use for DNA synthesis is covered by US patent numbers 5,854,033, 5,198,543, 5,576,204 and 5,001,050.

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