1

Genomic DNA purification, modification, and amplification

1.1 Human samples www.qiagen.com/PG/DNAhuman

Manual solutions Automated solutions Automatable solutions

Manual solutions Automated solutions Automatable solutions

1.2 Animal, plant, microorganism, and other samples

www.qiagen.com/PG/DNAanimalplant

Manual solutions Automated solutions Automatable solutions

■ Manual solutions □ Automated solutions ■ Automatable solutions

Human samples: 1–24 samples per run

Sample type	QIAamp DNA Blood Kits (page 16)	QIAamp DNA Micro Kit (page 19)	QIAamp DNA Mini Kit (page 18)	QIAamp DNA Stool Kit (page 20)	FlexiGene DNA Kit (page 25)	QIAamp Mineliute Media Kit (page 21)	QIAamp Mineliute Virus Kits (pages 22–23)	QIAamp Ultrasens Virus Kit (page 24)	PAXgene Blood DNA Kit (page 15)	QIAamp DNA Blood Mini Kit (page 16–17)	QIAamp Mineliute Virus Spin Kit (pages 16–17)	EZ1 DNA Blood Kits (pages 34–35)	EZ1 DNA Tissue Kit (page 36)	EZ1 Virus Mini Kit (page 38)	EZ1 DNA Investigator Kit (page 37)
	Manual										Automated				
Whole blood	■	■	■							■	■	■		■	■
Plasma and serum (viral DNA)	□*	□								■*†	■*	■*†	■*†		
Liquid transport media															
Urine															
CSF	■									■*	■*	■			
Saliva and mouthwash	■														
Buffy coat	■											■			
Lymphocytes	■														
Bone marrow	■														
Dried blood spot		■	■							■	■	■		■	□
Tissue		■	■							■	■				
Bone		■	■							■					
Paraffin-embedded tissue		■	■								■				
Laser-microdissected tissue		■	■												
Stool				■											
Bacteria												■			
Parasites		■													
Cultured cells	■	■	■									■			
Swabs and buccal cells	■	■	■									■			
Forensic samples‡		■	■									□			

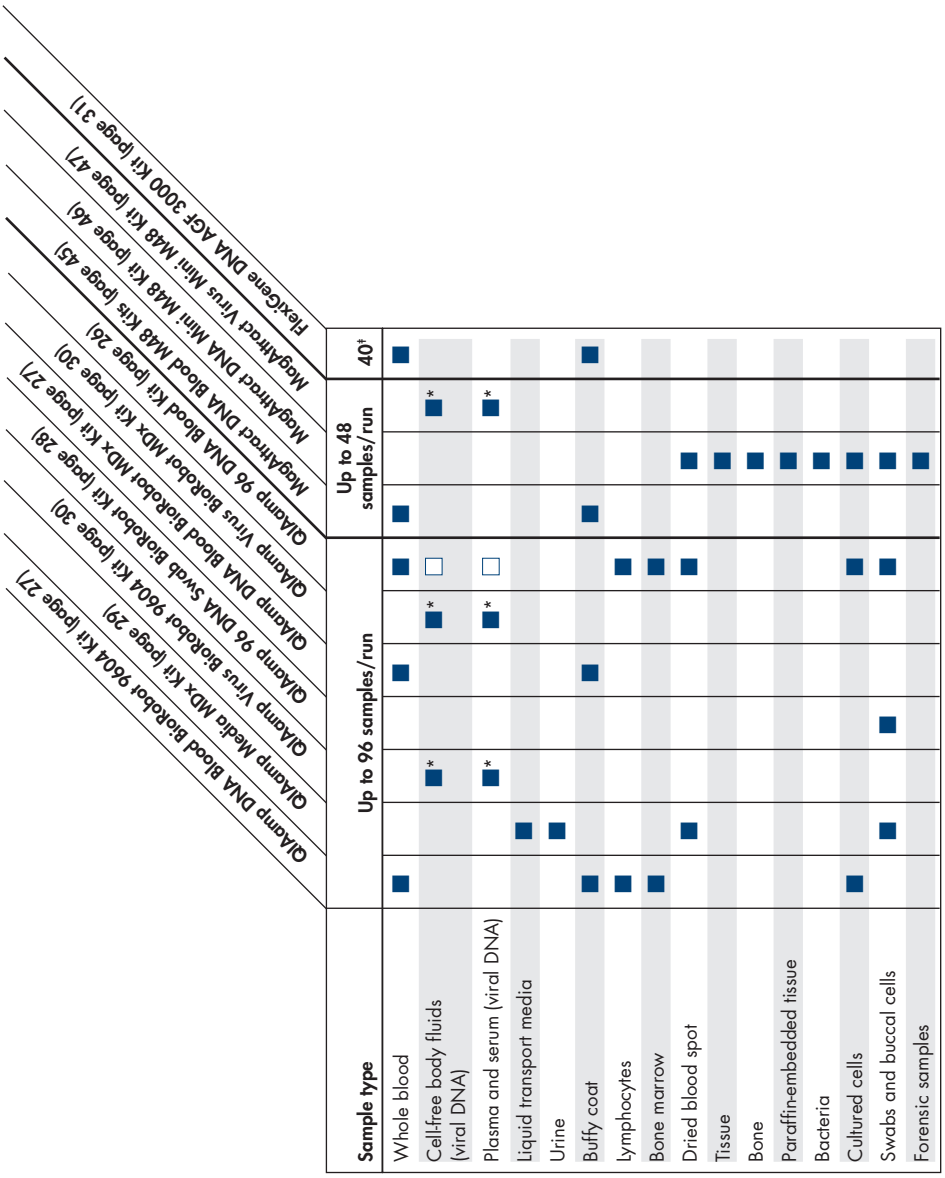
For kits for in vitro diagnostics, see the product guide 2007 supplement, available upon request (not available in all countries).

■: Recommended kit. □: Compatible kit.

* Including free circulating DNA and/or RNA. † Also viral RNA.

‡ See selection guides on pages 13 and 14.

Human samples: 24–96 samples per run

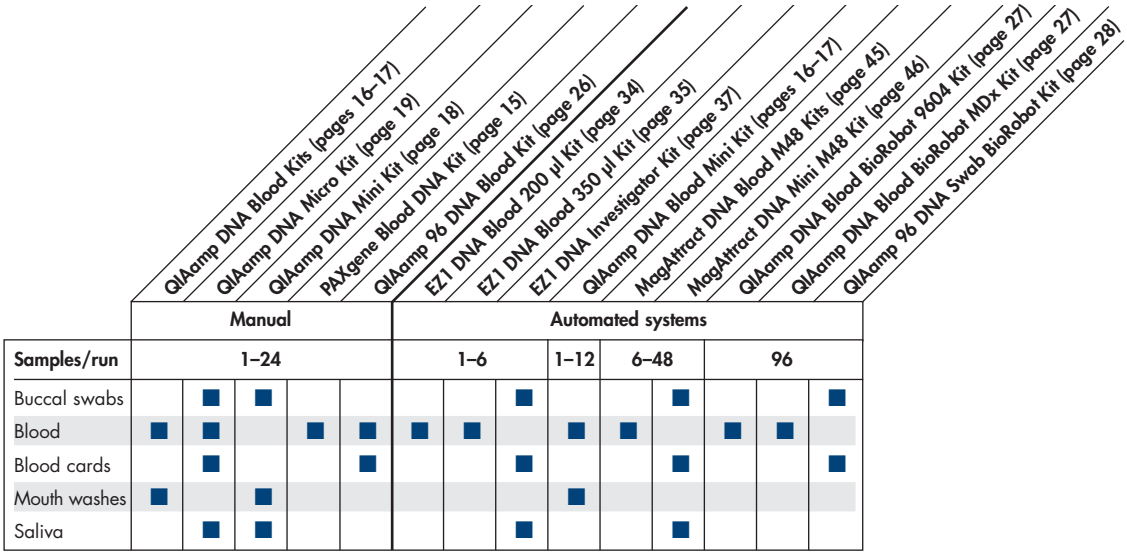


For kits for in vitro diagnostics, see the product guide 2007 supplement, available upon request (not available in all countries).

■: Recommended kit. □: Compatible kit.

* Also viral RNA. † See selection guides on pages 13 and 14. ‡ Up to 40 samples/run

DNA from forensic reference samples



	QIAamp DNA Blood Kits (pages 16–17)	QIAamp DNA Micro Kit (page 19)	QIAamp DNA Mini Kit (page 18)	PAXgene Blood DNA Kit (page 15)	QIAamp 96 DNA Blood Kit (page 26)	EZ1 DNA Blood 200 µl Kit (page 34)	EZ1 DNA Blood 350 µl Kit (page 35)	EZ1 DNA Investigator Kit (page 37)	QIAamp DNA Blood Mini Kit (pages 16–17)	MagAttract DNA Blood M48 Kits (page 45)	MagAttract DNA Mini M48 Kit (page 46)	QIAamp DNA Blood BioRobot 9604 Kit (page 27)	QIAamp DNA Blood BioRobot MDx Kit (page 27)	QIAamp 96 DNA Swab BioRobot Kit (page 28)
	Manual					Automated systems								
Samples/run	1–24					1–6			1–12	6–48		96		
Buccal swabs		■	■					■			■			■
Blood	■	■		■	■	■	■		■	■		■	■	
Blood cards		■			■			■			■			■
Mouth washes	■		■						■					
Saliva		■	■					■			■			

■: Recommended kit.

DNA from casework and crime-scene samples

Samples/run	QIAamp DNA Micro Kit (page 19)	QIAamp DNA Mini Kit (page 18)	QIAamp DNA Stool Mini Kit (page 20)	EZ1 DNA Investigator Kit (page 37)	MagAttract DNA Mini M48 Kit (page 46)	QIAamp 96 DNA Swab BioRobot Kit (page 28)
	Manual			Automated systems		
	1–24			1–6	6–48	96
Bone	■	■		■	■	
Chewing gum	■			■	■	■
Cigarette butts	■			■	■	■
Fingerprints	■			■	■	
Gastric contents			■			
Hair	■	■		■	■	■
Nail scrapings	■			■	■	
Saliva	■		■	■	■	
Sexual assault samples	■	■		■	■	■
Shed skin cells	■	■		■	■	
Soil			■	■	■	
Stains on fabric	■	■		■	■	■
Stamps	■			■	■	■
Stool			■			■*
Surface and contact swabs	■	■		■	■	■
Teeth	■	■		■	■	
Tissues (human)	■	■		■	■	
Urine	■	■				

■: Recommended kit.

* Requires Buffer ASL, available separately.

PAXgene™ Blood DNA System

For blood collection and stabilization, followed by genomic DNA purification

- Blood collection and purification in one system
- Easy handling
- Enhanced workflow efficiency
- Storage of blood for up to 14 days at room temperature

Product description

The PAXgene Blood DNA system consists of PAXgene Blood DNA Tubes, for blood collection and stabilization, and the PAXgene Blood DNA Kit, for DNA purification in a single-tube procedure.

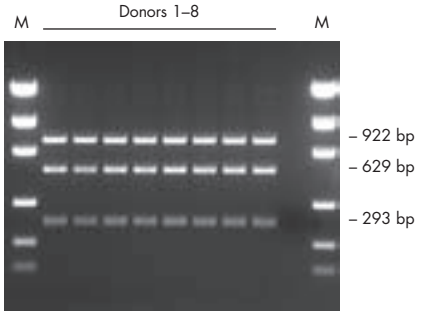
Applications

The purified DNA can be used in a wide range of downstream applications, including:

- PCR and quantitative real-time PCR
- Southern blotting
- Pharmacogenomic studies
- SNP discovery and SNP genotyping

For Research Use Only. Not for use in diagnostics procedures. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Efficient Multiplex PCR of Three Mitochondrial Genes



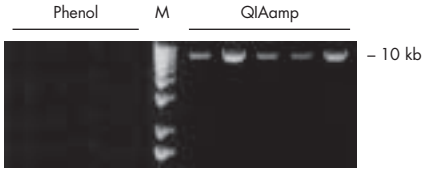
Multiplex PCR of fragments from the mitochondrial genes $tRNA^{lys}$/ATPase (0.92 kb), $tRNA^{leu}$(UUR) (0.63 kb), and ND4 (0.29 kb), using 250 ng DNA from 8 donors as starting material. **M**: Markers.

Product	Contents	Cat. no.
PAXgene Blood DNA Tubes (100)	100 PAXgene Blood DNA Tubes; to be used with the PAXgene Blood DNA Kit	761125
PAXgene Blood DNA Kit (25)	For 25 DNA preps: buffers, protease, and processing tubes filled with lysis buffer; to be used with PAXgene Blood DNA Tubes	761133
PAXgene Blood DNA Validation Kit (10)	For 10 DNA preps: 10 PAXgene Blood DNA Tubes, buffers, protease, and processing tubes filled with lysis buffer	761132

For further information: www.qiagen.com/PG/DNAhuman

Automatable on QIAcube

Efficient Long-Range PCR



Amplification of a 10 kb fragment of the human *ALDH1* gene from genomic DNA isolated from blood. DNA was purified using conventional methods (**Phenol**) or the QIAamp DNA Blood Maxi Kit (**QIAamp**). **M**: 1 kb ladder.

QIAamp® DNA Blood Kits

For purification of genomic, mitochondrial, or viral DNA from blood and related body fluids

- Rapid purification of high-quality, ready-to-use DNA
- No organic extraction or alcohol precipitation
- Consistent, high yields
- Complete removal of contaminants and inhibitors for reliable downstream applications

Product description

QIAamp DNA Blood Kits provide silica-membrane–based DNA purification. Mini kits are designed for processing up to 200 µl human whole blood; midi kits for 0.3–2 ml; and maxi kits for 3–10 ml. QIAamp Mini, Midi, and Maxi spin columns can be easily processed in a centrifuge or on vacuum manifolds. Purification of DNA using the QIAamp DNA Blood Mini Kit can be fully automated on the QIAcube (page 363).

Applications

The purified DNA can be used in a wide range of downstream applications, including:

- PCR and quantitative real-time PCR
- Southern blotting
- SNP genotyping
- Pharmacogenomic studies
- SNP discovery and validation

QIAamp DNA Blood Kits are intended for general laboratory use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Product	Contents	Cat. no.
QIAamp DNA Blood Mini Kit (50)*	For 50 minipreps of up to 12 µg DNA: 50 QIAamp Mini Spin Columns, QIAGEN® Protease, Reagents, Buffers, Collection Tubes (2 ml)	51104
QIAamp DNA Blood Mini Kit (250)*	For 250 minipreps of up to 12 µg DNA: 250 QIAamp Mini Spin Columns, QIAGEN Protease, Reagents, Buffers, Collection Tubes (2 ml)	51106
QIAamp DNA Blood Midi Kit (20)†	For 20 midipreps of up to 60 µg DNA: 20 QIAamp Midi Spin Columns, QIAGEN Protease, Buffers, Collection Tubes (15 ml)	51183
QIAamp DNA Blood Midi Kit (100)†	For 100 midipreps of up to 60 µg DNA: 100 QIAamp Midi Spin Columns, QIAGEN Protease, Buffers, Collection Tubes (15 ml)	51185
QIAamp DNA Blood Maxi Kit (10)†	For 10 maxipreps of up to 600 µg DNA: 10 QIAamp Maxi Spin Columns, QIAGEN Protease, Buffers, Collection Tubes (50 ml)	51192
QIAamp DNA Blood Maxi Kit (50)†	For 50 maxipreps of up to 600 µg DNA: 50 QIAamp Maxi Spin Columns, QIAGEN Protease, Buffers, Collection Tubes (50 ml)	51194

* QIAamp Mini spin columns can be used either in a microcentrifuge or on vacuum manifolds (QIAvac 24 Plus with VacConnectors and VacValves or QIAvac 6S with VacConnectors and QIAvac Luer Adapters, page 394) or fully automated on the QIAcube (page 363).

† QIAamp Midi and Maxi spin columns require use of a centrifuge with swinging bucket rotors, able to centrifuge up to 4500 x *g*. Alternatively, they can be processed on the QIAvac 24 Plus vacuum manifold with the QIAvac Connecting System and VacValves (page 394).

For further information: www.qiagen.com/PG/DNAhuman

Yields with the QIAamp DNA Mini Kit

Sample	Quantity	Yield	
		Total nucleic acids (µg)†	DNA (µg)‡
Blood	200 µl	4–12	4–12
Buffy coat	200 µl	25–50	25–50
Cells	10^7	40–60	30–40
Liver	25 mg	60–115	10–30
Brain	25 mg	35–60	15–30
Lung	25 mg	25–45	5–10
Heart	25 mg	15–40	5–10
Kidney	25 mg	40–85	15–30
Spleen	10 mg	25–45	5–30

† Nucleic acids obtained without RNase treatment.

‡ Nucleic acids obtained with RNase treatment.

QIAamp DNA Mini Kit

For isolation of genomic, mitochondrial, bacterial, parasite, or viral DNA

- Rapid purification of high-quality, ready-to-use DNA
- Consistent, high yields
- Complete removal of contaminants and inhibitors for reliable downstream applications

Product description

The QIAamp DNA Mini Kit provides silica-membrane–based nucleic acid purification from tissues, swabs, CSF, blood, body fluids, or washed cells from urine. The spin-column procedure does not require mechanical homogenization, so total hands-on preparation time is only 20 minutes.

Applications

The purified DNA can be used in a wide range of downstream applications, including:

- PCR and quantitative real-time PCR
- Southern blotting
- SNP and STR genotyping
- Pharmacogenomic research

The QIAamp DNA Mini Kit is intended for general laboratory use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Product	Contents	Cat. no.
QIAamp DNA Mini Kit (50)*	For 50 DNA preps: 50 QIAamp Mini Spin Columns, QIAGEN Proteinase K, Reagents, Buffers, Collection Tubes (2 ml)	51304
QIAamp DNA Mini Kit (250)*	For 250 DNA preps: 250 QIAamp Mini Spin Columns, QIAGEN Proteinase K, Reagents, Buffers, Collection Tubes (2 ml)	51306

* QIAamp Mini spin columns can be used either in a microcentrifuge or on vacuum manifolds (QIAvac 24 Plus with VacConnectors and VacValves, or QIAvac 6S with VacConnectors and QIAvac Luer Adapters, page 394).

For further information: www.qiagen.com/PG/DNAhuman

QIAamp DNA Micro Kit

For purification of genomic and mitochondrial DNA from small amounts of fresh or frozen blood, tissue, forensic samples, and dried blood spots

- Rapid purification of high-quality DNA
- No organic extraction or alcohol precipitation
- Consistent, high yields
- Complete removal of contaminants and inhibitors for reliable downstream applications

Product description

The QIAamp DNA Micro Kit simplifies purification of DNA from small samples with a fast spin-column procedure. The kit combines the selective binding properties of a silica-based membrane with flexible elution volumes of between 20 and 100 µl.

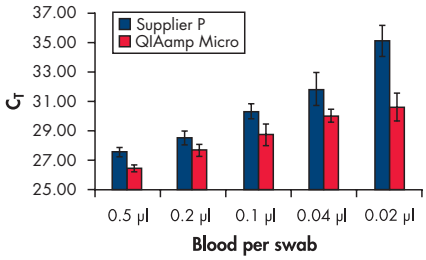
Applications

The purified DNA can be used in a wide range of downstream applications, including:

- PCR and quantitative real-time PCR
- PCR from laser-microdissected (LMD) samples
- SNP and STR genotyping
- Pharmacogenomic research

The QIAamp DNA Micro Kit is intended for general laboratory use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

DNA Extraction from Blood Swabs

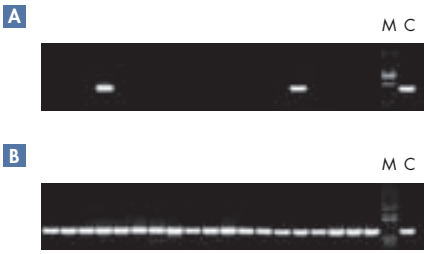


Swabs were spiked with diluted blood and air-dried. DNA was purified using the QIAamp DNA Micro Kit or a kit from Supplier P. Real-time PCR was carried out using the QuantiTect® Probe PCR Kit (page 199) with primers and probe for the β-actin gene.

Product	Contents	Cat. no.
QIAamp DNA Micro Kit (50)	For 50 DNA preps: 50 QIAamp MinElute® Columns, Proteinase K, Carrier RNA, Buffers, Collection Tubes (2 ml)	56304

For further information: www.qiagen.com/PG/DNAhuman

Complete Removal of Inhibitors Enables PCR Amplification



DNA was purified from 19 stool samples using A a conventional silica-based purification technique and B the QIAamp DNA Stool Mini Kit. To show whether inhibitors were present in the purified eluates, 5 µl of each eluate was added to PCR mixes with a template of 10 pg plasmid containing the green fluorescent protein (GFP) gene. Amplification of the GFP gene was successful in the presence of all QIAamp eluates whereas only 2 amplification reactions were successful in the presence of eluates prepared using the conventional technique. **M**: markers; **C**: positive PCR control.

QIAamp DNA Stool Mini Kit

For isolation of up to 30 µg genomic, bacterial, viral, and parasite DNA from stool

- Rapid isolation of high-quality, ready-to-use DNA
- No organic extraction or alcohol precipitation
- Consistent, high yields
- Complete removal of contaminants and inhibitors for reliable downstream applications

Product description

The QIAamp DNA Stool Mini Kit provides silica-membrane–based DNA purification from fresh or frozen human stool or other sample types with high concentrations of PCR inhibitors. The combined action of InhibitEX®, a unique adsorption resin, and an optimized buffer leads to removal of PCR inhibitors. The convenient QIAamp spin-column procedure provides purification in only 50 minutes.

Applications

The purified DNA can be used in a wide range of downstream applications, including:

- PCR and quantitative real-time PCR
- Infectious disease research
- Screening

The QIAamp DNA Stool Mini Kit is intended for general laboratory use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Product	Contents	Cat. no.
QIAamp DNA Stool Mini Kit (50)	For 50 DNA preps: 50 QIAamp Mini Spin Columns, QIAGEN Proteinase K, InhibitEX Tablets, Buffers, Collection Tubes (2 ml)	51504

For further information: www.qiagen.com/PG/DNAhuman

QIAamp MinElute Media Kit

For purification of DNA from liquid media

- Purification from a variety of liquid transport media — such as PreservCyt®, SurePath™, and M4RT
- Time-saving vacuum procedure — for convenient handling and ease of use
- Flexible elution volumes — from 20 to 150 µl
- High-quality DNA — with efficient removal of alcohols, aldehydes, and other contaminants

Product description

The QIAamp MinElute Media Kit provides a convenient vacuum procedure for purification of nucleic acids from liquid media, such as cervical swab transport media. QIAamp MinElute columns are rapidly processed on QIAvac 24 Plus vacuum manifolds (page 394).

Applications

The QIAamp MinElute Media Kit can be used for purification of cellular, bacterial, and viral DNA from a variety of sources, including:

- Liquid cytology media containing alcohol (e.g., PreservCyt and SurePath)
- Phosphate-buffered liquid transport media (e.g., M4RT)

The QIAamp MinElute Media Kit is intended for general laboratory use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Product	Contents	Cat. no.
QIAamp MinElute Media Kit*	For 50 minipreps: 50 QIAamp MinElute, Columns, QIAGEN Proteinase K, Carrier RNA, Buffers, Extension Tubes (3 ml), Collection Tubes (1.5 ml)	57414

* Requires use of a vacuum manifold, such as the QIAvac 24 Plus (page 394).

For further information: www.qiagen.com/PG/DNAhuman

Automatable on QIAcube

QIAamp MinElute Virus Spin Kit

For simultaneous purification of viral DNA and RNA from plasma, serum, and cell-free body fluids using spin processing

- Rapid purification of high-quality viral DNA and RNA
- No organic extraction or alcohol precipitation
- Consistent, high yields
- Complete removal of contaminants and inhibitors for reliable downstream applications

Product description

The QIAamp MinElute Virus Spin Kit simplifies purification of viral DNA and RNA with a fast spin-column procedure. Using starting sample volumes up to 0.2 ml, the kit combines the selective binding properties of a silica-based membrane with flexible elution volumes of between 20 and 150 µl. The purification procedure can be fully automated on the QIAcube (page 363).

Applications

The purified DNA and RNA can be used in a wide range of downstream applications, including:

- PCR and quantitative real-time RT-PCR
- Infectious disease research

The QIAamp MinElute Virus Spin Kit is intended for general laboratory use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Product	Contents	Cat. no.
QIAamp MinElute Virus Spin Kit (50)	For 50 minipreps: 50 QIAamp MinElute Columns, QIAGEN Protease, Carrier RNA, Buffers, Collection Tubes (2 ml)	57704

For further information: www.qiagen.com/PG/DNAhuman

QIAamp MinElute Virus Vacuum Kit

For simultaneous purification of viral DNA and RNA from plasma, serum, and cell-free body fluids using vacuum processing

- Rapid purification of high-quality viral DNA and RNA
- No organic extraction or alcohol precipitation
- Consistent, high yields
- Complete removal of contaminants and inhibitors for reliable downstream applications

Product description

The QIAamp MinElute Virus Vacuum Kit simplifies purification of viral DNA and RNA with a fast vacuum procedure. Using starting sample volumes up to 0.5 ml, the kit combines the selective binding properties of a silica-based membrane with flexible elution volumes of between 20 and 150 µl.

Applications

The purified DNA and RNA can be used in a wide range of downstream applications, including:

- PCR and quantitative real-time RT-PCR
- Infectious disease research

The QIAamp MinElute Virus Vacuum Kit is intended for general laboratory use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Product	Contents	Cat. no.
QIAamp MinElute Virus Vacuum Kit (50)*	For 50 minipreps: 50 QIAamp MinElute Columns, QIAGEN Protease, Carrier RNA, Buffers, Extension Tubes (3 ml), Collection Tubes (1.5 ml)	57714

* Requires use of a vacuum manifold, such as QIAvac 24 Plus with VacConnectors (page 394).

For further information: www.qiagen.com/PG/DNAhuman

QIAamp UltraSens® Virus Kit

For concentration and isolation of viral DNA and RNA from serum and plasma

- Rapid isolation of high-quality, ready-to-use viral DNA and RNA
- No organic extraction or alcohol precipitation
- Consistent, high yields
- Complete removal of contaminants and inhibitors for reliable downstream applications

Product description

The QIAamp UltraSens Virus Kit uses a novel technology to concentrate viral nucleic acids in plasma and serum samples, followed by nucleic acid purification using proven QIAamp technology. Starting with sample volumes of up to 1 ml, nucleic acid concentration is achieved by first adding a novel reagent to the sample. The reagent forms complexes with nucleic acids, allowing them to be highly concentrated by low-speed centrifugation.

Applications

The purified DNA and RNA can be used in a wide range of downstream applications, including:

- PCR and quantitative real-time RT-PCR
- Infectious disease research

The QIAamp Ultrasens Virus Kit is intended for general laboratory use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Product	Contents	Cat. no.
QIAamp UltraSens Virus Kit (50)	For 50 viral nucleic acid preps: 50 QIAamp Mini Spin Columns, Proteinase K, Carrier RNA, Collection Tubes (2 ml), Buffers	53704
QIAamp UltraSens Virus Kit (250)	For 250 viral nucleic acid preps: 250 QIAamp Mini Spin Columns, Proteinase K, Carrier RNA, Collection Tubes (2 ml), Buffers	53706

For further information: www.qiagen.com/PG/DNAhuman

FlexiGene® DNA Kit

For isolation of genomic DNA from whole blood, buffy coat, and cultured cells in a single tube

- Easy handling, no risk of sample mix-up
- Flexibility in amount of starting material, purification from 0.1–20 ml whole blood
- Direct purification from whole blood, buffy coat, and cultured cells
- Fast procedure
- No organic extraction

Product description

The FlexiGene system uses simple centrifugation to isolate highly pure DNA from whole blood, buffy coat, and cultured cells. The FlexiGene DNA Kit contains buffers and QIAGEN Protease for direct, simple purification in a single tube.

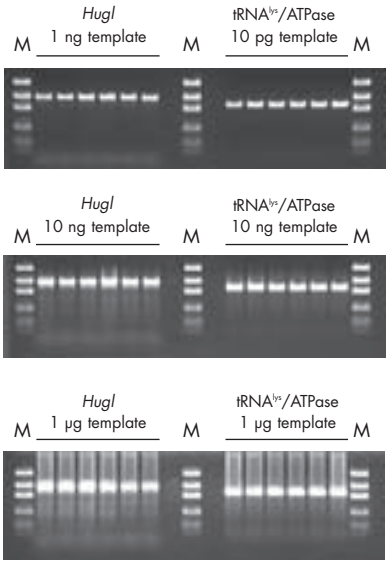
Applications

The purified DNA can be used in a wide range of downstream applications, including:

- PCR and quantitative real-time PCR
- Southern blotting
- SNP genotyping
- Pharmacogenomic studies
- SNP discovery and validation

The FlexiGene DNA Kit is intended for general laboratory use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Efficient Downstream PCR Analysis

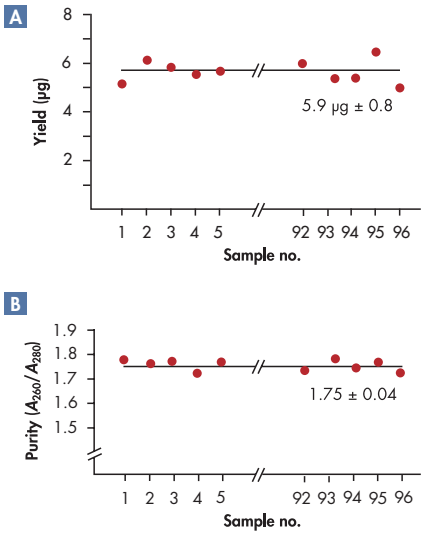


Variable amounts of DNA template were used to amplify the single-copy *HugI* gene and a mitochondrial target (tRNA^{Lys}/ATPase). Each sample was analyzed 6 times, and reproducible results were achieved. **M**: markers.

Product	Contents	Cat. no.
FlexiGene DNA Kit (50)	For purification of DNA from 50 ml whole blood: Buffers, QIAGEN Protease	51204
FlexiGene DNA Kit (250)	For purification of DNA from 250 ml whole blood: Buffers, QIAGEN Protease	51206

For further information: www.qiagen.com/PG/DNAhuman

Reproducibility of Yield and Purity



A DNA yields and B purity of 96 preparations isolated from a single donor and purified using the QIAamp 96 DNA Blood Kit. Mean values and standard errors from 10 replicates are shown.

QIAamp 96 DNA Blood Kit

For high-throughput isolation of up to 6 µg per well of genomic, mitochondrial, and viral DNA from blood and cell-free body fluids

- Rapid isolation of high-quality, ready-to-use DNA
- No organic extraction or alcohol precipitation
- Consistent, high yields
- Complete removal of contaminants and inhibitors for reliable downstream applications

Product description

The QIAamp 96 DNA Blood Kit provides proven QIAamp silica-membrane technology in a convenient 96-well format for high-throughput purification needs. QIAamp 96 plates are processed by centrifugation using the QIAGEN 96-Well-Plate centrifugation system (page 396).

Applications

The purified DNA can be used in a wide range of downstream applications, including:

- PCR and quantitative real-time PCR
- Pharmacogenomic research
- SNP discovery and SNP genotyping

The QIAamp 96 DNA Blood Kit is intended for general laboratory use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Product	Contents	Cat. no.
QIAamp 96 DNA Blood Kit (4)*	For 4 x 96 DNA preps: 4 QIAamp 96 Plates, QIAGEN Protease, Reagents, Buffers, Lysis Blocks, Tape Pads, Collection Vessels	51161
QIAamp 96 DNA Blood Kit (12)*	For 12 x 96 DNA preps: 12 QIAamp 96 Plates, QIAGEN Protease, Reagents, Buffers, Lysis Blocks, Tape Pads, Collection Vessels	51162

* Requires use of the QIAGEN 96-Well-Plate Centrifugation system (page 396).

For further information: www.qiagen.com/PG/DNAhuman

Automated

QIAamp DNA Blood BioRobot Kits

For automated purification of genomic and mitochondrial DNA from whole blood using BioRobot MDx (page 365) or 9604 workstations or the BioRobot Universal System (page 366)

- Rapid isolation of high-quality, ready-to-use DNA
- No organic extraction or alcohol precipitation
- Consistent, high yields
- Complete removal of contaminants and inhibitors for reliable downstream applications

Product description

QIAamp DNA Blood BioRobot Kits provide automated DNA purification using proven QIAamp silica-membrane technology. The fully automated procedure on the BioRobot MDx workstation requires less than 2.5 hours, including bar code reading and complete process documentation, with no hands-on time during the run.

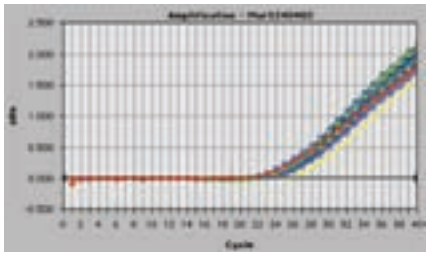
Applications

The purified DNA can be used in a wide range of downstream applications, including:

- PCR and quantitative real-time PCR
- Pharmacogenomic research
- SNP discovery and SNP genotyping

QIAamp DNA Blood BioRobot Kits are intended for general laboratory use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Reliable Real-Time PCR



The QIAamp DNA Blood BioRobot MDx Kit was used to purify genomic DNA from 96 whole blood samples (each 200 µl) collected from a single donor. The β-actin gene was amplified from the purified DNA using real-time, quantitative PCR. An amplification plot of 96 PCR reactions is shown.

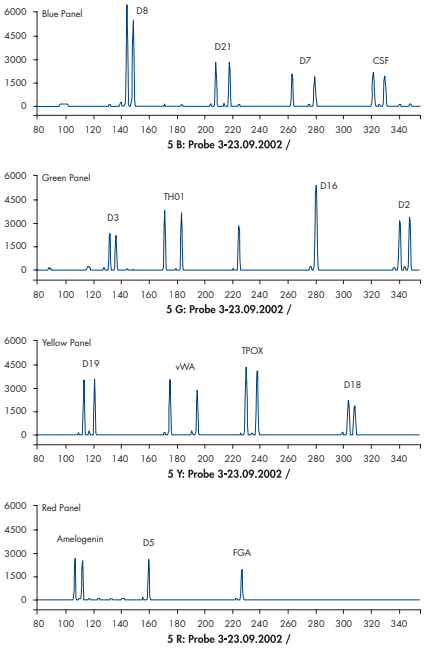
Product	Contents	Cat. no.
QIAamp DNA Blood BioRobot MDx Kit (12)	For 12 x 96 DNA preps: 12 QIAamp 96 Plates, Buffers,* QIAGEN Protease, Elution Microtubes CL, Caps, S-Blocks, Tape Pad	965152
QIAamp DNA Blood BioRobot 9604 Kit (12)	For 12 x 96 DNA preps: 12 QIAamp 96 Plates, Buffers, QIAGEN Protease, AirPore Tape Sheets, Tape Pad, S-Blocks, Racks with Collection Microtubes (1.2 ml), Caps	965162

* Wash buffers are labeled with bar codes and expiration date is stated on the Q-Card in the kit.

For further information: www.qiagen.com/PG/DNAhuman

Automated

High-Quality DNA for STR Analysis



DNA was purified from a buccal swab using the QIAamp 96 DNA Swab BioRobot Kit on a BioRobot Genotyping workstation. Multiplex STR analysis was carried out on an AmpFLSTR® Identifiler® using GeneScan® 3.0 software (Data kindly provided by M. Schneider, Humatrix AG, Frankfurt am Main, Germany).

QIAamp 96 DNA Swab BioRobot® Kit

For automated high-throughput DNA purification from swabs using the BioRobot Universal System (page 366)*

- Rapid purification of high-quality DNA
- Consistent, high yields
- Complete removal of contaminants and inhibitors for reliable downstream applications

Product description

The QIAamp 96 DNA Swab BioRobot Kit provides automated DNA purification from up to 96 swabs on the BioRobot 9604 or up to 192 swabs on the BioRobot Genotyping or BioRobot Universal System proven QIAamp silica-membrane technology. Up to 192 samples are processed in less than 2.5 hours using the BioRobot Genotyping system. The procedure is optimized for use with air-dried swabs with plastic shafts and cotton or DACRON® tips, although other swab types can be used.

Applications

The purified DNA is ready to use in a wide range of demanding and sensitive applications in clinical research and forensics, including:

- Genetic testing and genetic database construction
- Genotyping
- Pharmacogenomic research

The QIAamp 96 DNA Swab BioRobot Kit is intended for general laboratory use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

* Can also be used on BioRobot 9604 or BioRobot Genotyping — Buccal Swab workstations (no longer available).

Product	Contents	Cat. no.
QIAamp 96 DNA Swab BioRobot Kit (12)	For 12 x 96 DNA preps: 12 QIAamp 96 Plates, Buffers, QIAGEN Proteinase K, AirPore Tape Sheets, Tape Pad, S-Blocks, Racks with Collection Microtubes (1.2 ml), Caps	965842

For further information: www.qiagen.com/PG/DNAhuman

Automated

QIAamp Media MDx Kit

For automated purification of DNA from liquid media using the BioRobot MDx workstation (page 365)

- Purification from a variety of liquid transport media — such as PreservCyt, SurePath, and M4RT
- Fully automated procedure — minimal hands-on time with no centrifugation required
- Purification of viral and other DNA — for use in all downstream applications
- High-quality DNA — with efficient removal of alcohols, aldehydes, and other contaminants

Product description

The QIAamp Media MDx Kit provides a fully automated procedure for purification of DNA from liquid media, such as cervical swab transport media. The fully automated process, including bar code reading, load check, and complete process documentation, requires only 200 minutes for 96 samples, with no hands-on time.

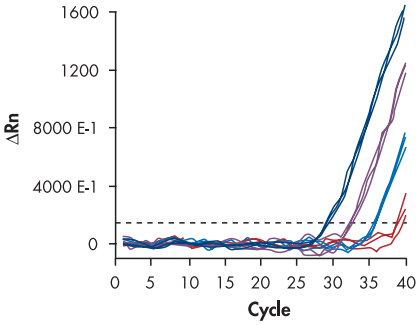
Applications

The QIAamp Media MDx Kit can be used for purification of cellular, bacterial, and viral DNA from a variety of sources:

- Liquid cytology media containing alcohol (e.g., PreservCyt and SurePath)
- Phosphate-buffered liquid transport media (e.g., M4RT)
- Dried blood spots, blood cards, and swabs
- Urine

The QIAamp Media MDx Kit is intended for general laboratory use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Linear Yields of High-Quality Nucleic Acids



Triplicate samples of SurePath liquid cytology medium were spiked with 10^3, 10^4, 10^5, and 10^6 Jurkat cells each. Total nucleic acids were purified using the QIAamp Media MDx Kit. A 9 µl aliquot from each eluate was used in a 25 µl real-time, quantitative PCR assay using the QuantiTect Probe PCR Kit (page 199) with primers and probe specific for the β-actin gene.

Product	Contents	Cat. no.
QIAamp Media MDx Kit (12)	For 12 x 96 preps: 12 QIAamp 96 Plates, Buffers, Proteinase K, S-Blocks, Disposable Troughs, Racks with Elution Microtubes CL (0.4 ml), Carrier RNA, Top Elute Fluid, Caps, Tape Pad	965752

For further information: www.qiagen.com/PG/DNAhuman

Automated

QIAamp Virus BioRobot Kits

For automated purification of viral DNA and RNA from cell-free body fluids on BioRobot MDx (page 365) or 9604 workstations

- Rapid isolation of high-quality, ready-to-use viral DNA and RNA
- No organic extraction or alcohol precipitation
- Consistent, high yields
- Complete removal of contaminants and inhibitors for reliable downstream applications

Product description

QIAamp Virus BioRobot Kits provide automated DNA purification using proven QIAamp silica-membrane technology. The fully automated procedure on the BioRobot MDx workstation requires less than 2.5 hours, including bar code reading and complete process documentation, with no hands-on time during the run.

Applications

The purified DNA and RNA can be used in a wide range of downstream applications, including:

- PCR and quantitative real-time RT-PCR
- Infectious disease research

QIAamp Virus BioRobot Kits are intended for general laboratory use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Product	Contents	Cat. no.
QIAamp Virus BioRobot MDx Kit (12)	For 12 x 96 preps: 12 QIAamp 96 Plates, RNase-Free Buffers,* QIAGEN Protease, Elution Microtubes CL, Caps, S-Blocks, Carrier RNA	965652
QIAamp Virus BioRobot 9604 Kit (12)	For 12 x 96 preps: 12 QIAamp 96 Plates, RNase-Free Buffers, QIAGEN Protease, AirPore Tape Sheets, Tape Pad, S-Blocks, Racks with Collection Microtubes (1.2 ml), Carrier RNA, Caps	965662

* Wash buffers are labeled with bar codes, and expiration date is stated on the Q-Card in the kit.

For further information: www.qiagen.com/PG/DNAhuman

Automated

FlexiGene DNA AGF3000 Kit

For purification of DNA from large volumes of whole human blood using AutoGenFlex workstations

- High-quality, high-molecular-weight DNA — for all downstream applications
- Significant labor reduction — fully automated walkaway system
- Improved accuracy and reliability — reliable DNA purification with trouble-free automation
- Increased productivity — frees personnel for other tasks

Product description

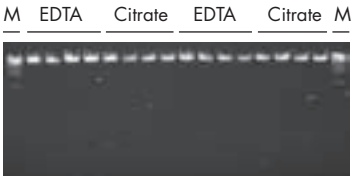
The FlexiGene DNA AGF3000 Kit provides buffers and reagents for automated purification of DNA from 1–5 ml human whole blood using AutoGenFlex workstations (AutoGen, Inc.; www.autogen.com).

Applications

The FlexiGene DNA AGF3000 Kit provides high-molecular-weight DNA from blood that has been treated with EDTA or citrate as an anticoagulant. The procedure provides high-quality DNA that is free of protein, nucleases, and other contaminants or inhibitors, enabling long-term storage of purified DNA. Purified DNA performs well in a range of downstream applications, including PCR-based techniques, restriction digestion, sequencing, and Southern blotting.

The FlexiGene DNA AGF3000 Kit is intended for general laboratory use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

High-Molecular-Weight DNA with Different Anticoagulants



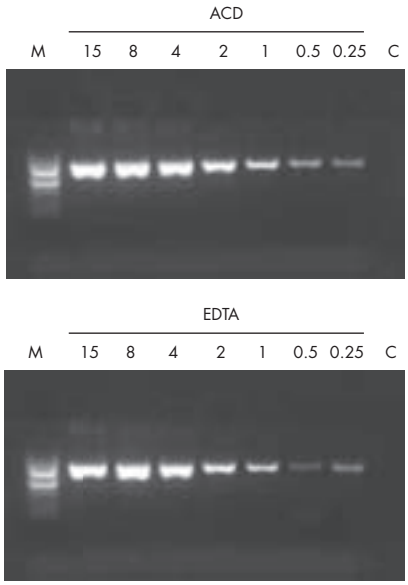
Human whole blood samples from 4 donors were treated, in quadruplicate, with either EDTA or citrate and stored at 2–8°C for 3 days. Genomic DNA was purified from 5 ml of each sample using the FlexiGene DNA AGF3000 Kit. Purified DNA was analyzed by agarose gel electrophoresis, with 200 ng genomic DNA per lane. **M**: markers.

Product	Contents	Cat. no.
FlexiGene DNA AGF 3000 Kit (640)	For automated purification of DNA from 640 ml whole blood samples using AutoGenFlex workstations: Buffers, QIAGEN Protease	51297
5-Hole Tube Unit (256)	For 640 preps: 256 x 5-Hole Tube Units for use with AutoGenFlex workstations	19589

For further information: www.qiagen.com/PG/DNAhuman

Automated

Sensitive PCR Using DNA from Preserved Blood



PCR of a 900 bp fragment of the MECL-1 single-copy gene using serial dilutions of template DNA purified from 200 µl ACD- and EDTA-preserved whole blood. 15–0.25 µl purified DNA was used in each 50 µl PCR as indicated. **M**: 100 bp DNA ladder; **C**: negative control.

EZ1 DNA Cards

For easy setup of protocols on the BioRobot EZ1 (page 362)

- Easy protocol setup — with credit-card ease of use
- Standardized processing — preset protocols ensure low variability and error-free purification

Product description

EZ1 cards are preprogrammed cards providing protocols for purification of DNA using the BioRobot EZ1. These protocols provide both on-screen instructions for the operator and operating commands for the BioRobot EZ1 workstation.

Applications

The high-quality DNA obtained using the BioRobot EZ1 workstation with EZ1 DNA Cards and EZ1 DNA Kits is suited for use in many applications, including:

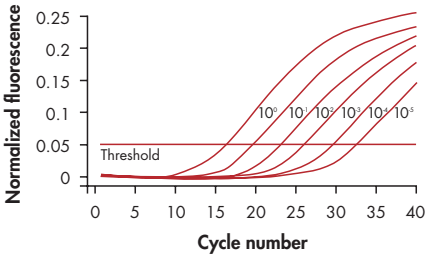
- Gene expression analysis, including quantitative real-time RT-PCR and microarray technologies
- Oncology, forensics, and biodefense research
- Infectious disease research, including bacterial genotyping
- Genetic testing and genotyping, including STR, NASBA®, VNTR, SNP, and AFLP analyses

EZ1 DNA Cards are intended for research use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Combinations of EZ1 Cards and Kits

Card	Kit	Samples
EZ1 DNA Blood Card	EZ1 DNA 200 µl Blood Kit (page 34)	Blood and blood-derived samples
EZ1 DNA Blood Card	EZ1 DNA 350 µl Blood Kit (page 35)	Blood and blood-derived samples
EZ1 DNA Dried Blood Card	EZ1 DNA Tissue Kit (page 36)	Dried blood
EZ1 DNA Buffy Coat Card	EZ1 DNA 350 µl Blood Kit (page 35)	Buffy coat
EZ1 DNA Tissue Card	EZ1 DNA Tissue Kit (page 36)	Tissues
EZ1 DNA Paraffin Section Card	EZ1 DNA Tissue Kit (page 36)	Paraffin-embedded tissues
EZ1 DNA Buccal Swab Card	EZ1 DNA Tissue Kit (page 36)	Buccal swabs
EZ1 DNA Investigator Card	EZ1 DNA Investigator Kit (page 37)	Forensic, human-identity, and biosecurity samples
EZ1 DNA Bacteria Card	EZ1 DNA Tissue Kit (page 36)	Human samples, swabs, biopsies, bacterial cultures
EZ1 Virus Card v2.0	EZ1 Virus Mini Kit v2.0 (page 38)	Viral DNA and RNA from serum and plasma

Sensitive Detection of Bacterial DNA



Real-time PCR of the 23S gene was performed on DNA isolated from *E. coli*. DNA was isolated from a dilution series (10^0–10^{-5}) of a suspension culture in exponential growth, grown to an optical density (OD) of 0.70 (10^0).

DNA Yields Obtained from Bacterial Suspension Cultures Using the BioRobot EZ1 System

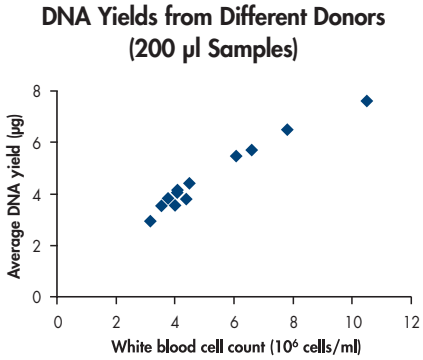
Sample type	Gram	Optical density (OD) value	Starting volume	DNA yield (µg)
Escherichia coli	–	0.7	200 µl	6.6 ± 0.4
Pseudomonas spp.	–	0.7	200 µl	9.0 ± 0.5
Bacillus subtilis	+	0.4	1000 µl*	5.7 ± 0.2
Staphylococcus spp.	+	0.2	1000 µl*	5.7 ± 0.2

* Bacteria cultures were pelleted and resuspended in PBS.

Product	Contents	Cat. no.
EZ1 DNA Blood Card	Preprogrammed card for BioRobot EZ1 blood protocols	9015585
EZ1 DNA Dried Blood Card	Preprogrammed card for BioRobot EZ1 protocols for dried blood samples	9015863
EZ1 DNA Buffy Coat Card	Preprogrammed card for BioRobot EZ1 protocols for buffy coat samples	9015587
EZ1 DNA Tissue Card	Preprogrammed card for BioRobot EZ1 tissue protocols	9015588
EZ1 DNA Paraffin Section Card	Preprogrammed card for BioRobot EZ1 paraffin section protocols	9015862
EZ1 DNA Buccal Swab Card	Preprogrammed card for BioRobot EZ1 protocols for buccal swab samples	9015589
EZ1 DNA Investigator Card	Preprogrammed card for BioRobot EZ1 DNA Investigator protocols	9016387
EZ1 DNA Bacteria Card	Preprogrammed card for EZ1 bacterial DNA purification protocols	9016362
EZ1 Virus Card v2.0	Preprogrammed card for BioRobot EZ1 virus protocols	9017330

For further information: www.qiagen.com/PG/DNAhuman

Automated



Average DNA yields from 200 µl blood samples. Samples from 12 individuals with various white blood cell counts were used.

EZ1 DNA Blood 200 µl Kit

For automated purification of DNA from 1–6 blood samples up to 200 µl using the BioRobot EZ1 workstation (page 362)

- Rapid purification — of up to 6 µg high-quality DNA from whole blood samples
- Flexible purification — of 1–6 samples per run
- Credit card ease of use — for protocol and worktable setup

Product description

The EZ1 DNA Blood 200 µl Kit contains all required reagents and labware for automated purification of DNA from up to 200 µl blood samples using magnetic-particle technology. Reagents are supplied in pre-filled reagent cartridges, which ensures speed and convenience in loading the BioRobot EZ1 workstation.

Applications

The high-quality DNA obtained using the EZ1 DNA Blood 200 µl Kit with the BioRobot EZ1 workstation is suited for use in many applications, such as:

- Genotyping analysis, including SNP, STR, VNTR, RAPD, NASBA, and AFLP technologies
- Population genetics and pharmacogenomic research
- Infectious disease and oncology research

The EZ1 DNA Blood 200 µl Kit is intended for general laboratory use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Product	Contents	Cat. no.
EZ1 DNA Blood 200 µl Kit (48)	For 48 DNA preps: Reagent Cartridges, Disposable Tips, Disposable Tip-Holders, Sample Tubes, Elution Tubes, Buffers	951034

For further information: www.qiagen.com/PG/DNAhuman

Automated

EZ1 DNA Blood 350 µl Kit

For automated purification of DNA from 1–6 blood or buffy coat samples using the BioRobot EZ1 workstation (page 362)

- Rapid purification — of up to 9.5 µg high-quality DNA from whole blood samples or up to 14 µg high-quality DNA from buffy samples
- Flexible purification — of 1–6 samples per run
- Credit card ease of use — for protocol and worktable setup

Product description

The EZ1 DNA Blood 350 µl Kit contains all required reagents and labware for automated purification of DNA from up to 350 µl blood or buffy coat samples using magnetic-particle technology. Reagents are supplied in prefilled reagent cartridges, which ensures speed and convenience in loading the BioRobot EZ1 workstation.

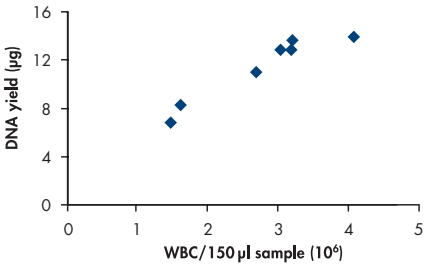
Applications

The high-quality DNA obtained using the EZ1 DNA Blood 350 µl Kit with the BioRobot EZ1 workstation is suited for use in many applications, such as:

- Genotyping analysis, including SNP, STR, VNTR, RAPD, NASBA, and AFLP technologies
- Population genetics and pharmacogenomic research
- Infectious disease and oncology research

The EZ1 DNA Blood 350 µl Kit is intended for general laboratory use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Representative Yields of High-Purity DNA from Buffy Coat Samples



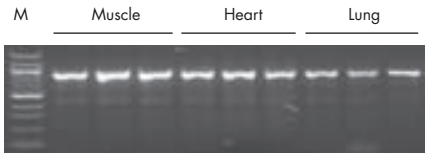
Each data point represents the average yield from 3 replicates.

Product	Contents	Cat. no.
EZ1 DNA Blood 350 µl Kit (48)	For 48 DNA preps: Reagent Cartridges, Disposable Tips, Disposable Tip-Holders, Sample Tubes, Elution Tubes, Buffers	951054

For further information: www.qiagen.com/PG/DNAhuman

Automated

Consistent PCR Results



PCR of the bovine obesity single-copy gene (850 bp fragment) using EZ1-purified DNA from bovine tissues. **M**:100 bp marker.

DNA Yields from Fresh and Stored Buccal Cell Samples

Sample type	No. of samples tested	DNA yield (µg)
Fresh buccal cell swabs	18	2.78 ± 0.92
24-month-old buccal cell swabs*	6	0.77 ± 0.18
24-month-old buccal cell brush samples*	15	1.47 ± 0.40

* Samples were stored (air dried) at room temperature for 24 months.

EZ1 DNA Tissue Kit

For automated purification of high-quality DNA from 1–6 tissue samples using the BioRobot EZ1 workstation (page 362)

- Rapid purification of high-quality DNA
- Easy-to-use workstation requires minimal user interaction
- Affordable, slimline workstation

Product description

The EZ1 DNA Tissue Kit contains all required reagents and labware for automated purification of DNA from up to 40 mg tissue samples using magnetic-particle technology. Reagents are supplied in prefilled reagent cartridges, which ensures speed and convenience in loading the BioRobot EZ1 workstation.

Applications

The purified DNA can be used in a wide range of downstream applications, including:

- Genotyping analysis, including STR, VNTR, RAPD, NASBA, SNP, and AFLP technologies
- Pharmacogenomic research
- Oncology research
- Forensics and biodefense research

The EZ1 DNA Tissue Kit is intended for general laboratory use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Product	Contents	Cat. no.
EZ1 DNA Tissue Kit (48)	48 Reagent Cartridges (Tissue), 50 Disposable Tip Holders, 50 Disposable Filter-Tips, 50 Sample Tubes (2 ml), 50 Elution Tubes (1.5 ml), Buffer G2, Proteinase K	953034

For further information: www.qiagen.com/PG/DNAhuman

Automated

New EZ1 DNA Investigator Kit

For easy, automated purification of DNA from a wide variety of samples encountered in forensic, human-identity, and biosecurity applications using the BioRobot EZ1 workstation (page 362)

- More efficient yields — including from trace casework samples
- Higher signal-to-noise ratios — for sensitive downstream detection assays
- Easier handling — swabs, blood discs, cigarette butts, and other solid samples can be processed directly on the BioRobot EZ1 workstation
- More optimized protocols — including larger starting volumes (500 µl) for more dilute samples and normalization for uniform yields
- Optional TE elution — for increased stability of small amounts of purified DNA

Product description

The BioRobot EZ1 and the EZ1 DNA Investigator Kit reproducibly automate purification of genomic DNA from 1–6 samples, such as swabs, filters, casework or crime-scence samples, and blood. Purification is efficient and purified DNA performs well in downstream analyses, such as quantitative PCR and STR analysis, with high signal-to-noise ratios.

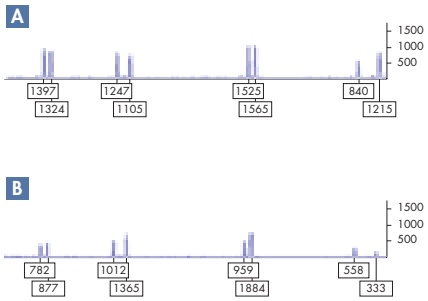
Applications

The kit is suited for many applications, such as:

- Genotyping, including fingerprinting and paternity analysis
- DNA purification from trace samples (e.g., crime-scene)
- DNA extraction from filters used in environmental testing
- Routine analysis of reference samples

The EZ1 DNA Investigator Kit is intended for general laboratory use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Improved Performance in STR Analysis



AmpFlSTR® control DNA (1 ng) was diluted in 200 µl Buffer G2 and purified on the BioRobot EZ1 workstation. DNA was eluted in 50 µl water, and 10 µl (corresponding to 200 pg DNA) was used for STR analysis. PCR products were analyzed on an ABI PRISM® 310 Genetic Analyzer with Genotyper® software. **A** DNA was purified using the EZ1 DNA Investigator Kit and the trace protocol on the EZ1 DNA Investigator Card. **B** DNA was purified using the EZ1 DNA Tissue Kit and the trace protocol on the EZ1 DNA Forensic Card (Data kindly provided by B. Bayer and K. Anslinger, Institute of Legal Medicine, Ludwig Maximilian University, Munich, Germany).

Product	Contents	Cat. no.
EZ1 DNA Investigator Kit (48)	For 48 preps: Reagent Cartridges, Disposable Tip Holders, Disposable Filter-Tips, Sample Tubes, Elution Tubes, Buffers, Reagents; includes Certificate of Analysis	952034

For further information: www.qiagen.com/PG/DNAhuman

Automated

Research Data — Improved Analytical Sensitivity for Detection of HCV RNA

	Old kit			EZ1 Virus Mini Kit v2.0		
Titer (IU/ml)	n	Hits	%	n	Hits	%
100	24	24	100	12	12	100
75	24	24	100	12	12	100
50	24	23	95.8	12	12	100
35	24	20	83.3	12	12	100
20	24	22	91.7	12	12	100
10	24	13	54.2	12	11	91.7
5	24	9	37.5	12	7	58.3
0	24	0	0.0	12	0	0.0
95% probit value	44.5 IU/ml			11.0 IU/ml		
Confidence interval	31.0–81.7 IU/ml			7.8–189.4 IU/ml		

Viral RNA was purified from human plasma spiked with a HCV international standard using either the previous-generation EZ1 Virus Mini Kit (**Old kit**) or the improved, 2nd generation EZ1 Virus Mini Kit v2.0 (**EZ1 Virus Mini Kit v2.0**). A 50 µl aliquot of each eluate was used in a commercially available RT-PCR HCV assay for HCV RNA detection.

New EZ1 Virus Mini Kit v2.0

For easy, automated, simultaneous purification of viral DNA and RNA from 1–6 plasma or serum samples using the BioRobot EZ1 workstation (page 362)

- Higher analytical sensitivity — efficient yields, even with low viral titers for sensitive analytical detection in downstream assays
- Highly reproducible results — robust and reproducible method for reliable results
- Linear yields — efficient purification over a wide range of viral titers
- Prefilled and sealed reagent cartridges — for standardization and easy handling

Product description

The EZ1 Virus Mini Kit provides a fully automated procedure for simultaneous purification of viral DNA and RNA from serum and plasma for sensitive analytical detection in downstream assays. Improvements in the kit have led to the development of the new v2.0 kit. The new kit provides optimized binding conditions for more robust and reproducible capture of nucleic acids and improved wash conditions for higher analytical sensitivity in downstream assays.

Applications

Purified viral DNA and RNA is compatible with a large number of downstream quantitative, real-time PCR assays and thermal cyclers, allowing accurate quantification of a wide range of viral nucleic acids.

The EZ1 Virus Mini Kit v2.0 is intended for general laboratory use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Product	Contents	Cat. no.
EZ1 Virus Mini Kit v2.0 (48)	For 48 virus nucleic acid preps: Reagent Cartridges (Virus Mini v2.0), Disposable Tip Holders, Disposable Filter-Tips, Sample Tubes, Elution Tubes Buffers	955134

For further information: www.qiagen.com/PG/DNAhuman

Automated

App. Package, M48, Genotyping v1.2

For easy setup of protocols for genotyping applications using the BioRobot M48 workstation (page 364) and MagAttract® DNA Blood M48 Kits (page 45)

- Easy protocol setup — all genotyping application protocols on one CD-ROM
- Standardized processing — preset protocols ensure low variability and error-free setup
- Increased processing capacity — with protocols for different volumes of blood or buffy coat samples

Product description

The App. Package, M48, Genotyping is a CD-ROM containing protocols for DNA purification from 100–700 µl blood or 25–300 µl buffy coat samples. These protocols provide operating commands for the workstation and allow easy setup through comprehensive, on-screen instructions.

Applications

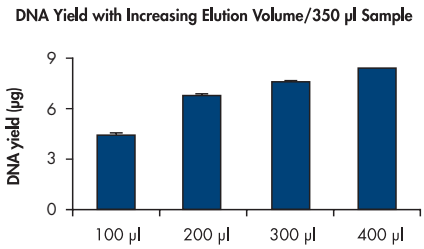
The high-quality DNA obtained using MagAttract DNA Blood M48 Kits with protocols in the App. Package, M48, Genotyping is suitable for use in many downstream applications, such as:

- Genotyping analysis, including STR, VNTR, RAPD, NASBA, and AFLP technologies
- Population genetics
- Pharmacogenomic research

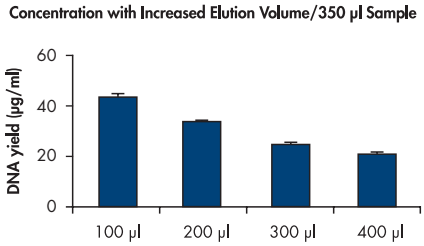
The App. Package, M48, Genotyping v1.2 is intended for research use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Variable Elution Volumes Allow a Range of Yields and Concentrations

A



B



A Average DNA yields from 350 µl blood samples using 100–400 µl elution volumes. Six replicates were purified and analyzed for each elution volume. B Average DNA concentration from 350 µl blood samples, using 100–400 µl elution volumes.

Genomic DNA Purification Protocols on the App. Package, M48, Genotyping

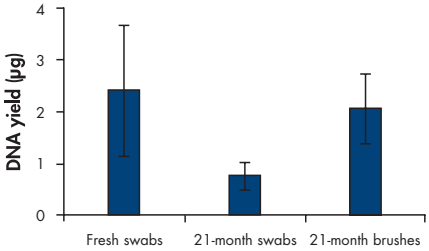
Sample type	Sample volume (µl)	Elution volume (µl)	Kit
Whole blood	100–200	50–400	Mini
Whole blood	250–350	100–400	Midi
Whole blood	500–700	200–400	Midi
Buffy coat	50–75	150–400	Midi
Buffy coat	100–150	150–400	Midi
Buffy coat	200–300	150–400	Midi

Product	Contents	Cat. no.
App. Package, M48, Genotyping v1.2	Software protocol package for genotyping applications on the BioRobot M48 workstation	9016146

For further information: www.qiagen.com/PG/DNAhuman

Automated

Yields of DNA from Fresh or Stored Buccal Cell Samples



Average yields of genomic DNA purified in triplicate from sixteen fresh cotton swabs, in triplicate from four 21-month-old cotton swabs, and in duplicate from six 21-month-old cytology brushes using the BioRobot M48 and MagAttract technology. Samples were stored at room temperature for 21 months before processing.

Genomic DNA Purification Protocols on the App. Package, M48, Genetic Screening

Sample type	Sample volume	Elution volume (µl)
Dried blood	4 pretreated paper disks	50–400
Buccal cells	200 µl predigested sample (1 swab in tube)	50–400

App. Package, M48, Genetic Screening v1.1

For easy setup of protocols for genetic screening applications using the BioRobot M48 workstation (page 364) and the MagAttract DNA Mini M48 Kit (page 46)

- Easy protocol setup — all genetic screening application protocols on one CD-ROM
- Standardized processing — preset protocols ensure low variability and error-free setup
- Increased processing capacity — with protocols for DNA purification from buccal cells or blood cards

Product description

The App. Package, M48, Genetic Screening is a CD-ROM containing protocols for DNA purification from buccal cells (predigested with proteinase K) or blood cards (4 punches per purification). These protocols provide operating commands for the workstation and allow easy setup through comprehensive, on-screen instructions.

Applications

The purified DNA is suitable for use in many genetic screening applications, such as:

- Genetic database construction and biobanking
- Familial genetics, including prenatal and neonatal screening
- Mutational analysis
- Epidemiological studies

The App. Package, M48, Genetic Screening v1.1 is intended for research use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Product	Contents	Cat. no.
App. Package, M48, Genetic Screening v1.1	Software protocol package for genetic screening applications on the BioRobot M48 workstation	9016147

For further information: www.qiagen.com/PG/DNAhuman

Automated

App. Package, M48, Genomic Research v1.2

For easy setup of protocols for genomic research applications using the BioRobot M48 workstation (page 364) and the MagAttract DNA Mini M48 Kit (page 46)

- Easy protocol setup — all genomic research application protocols on one CD-ROM
- Standardized processing — preset protocols ensure low variability and error-free setup
- Increased processing capacity — with protocols for DNA purification from cultured cells or soft tissues

Product description

The App. Package, M48, Genomic Research is a CD-ROM containing protocols for DNA purification from cultured cells or soft tissues. These protocols provide operating commands for the workstation and allow easy setup through comprehensive, on-screen instructions.

Applications

The purified DNA is suitable for use in many genomic research applications, such as:

- Genotyping analysis, including STR, VNTR, RAPD, NASBA, and AFLP technologies
- Sequence and melting-curve analysis
- Population genetics
- Pharmacogenomic research

The App. Package, M48, Genomic Research v1.2 is intended for research use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Average DNA Yields and Purities of Six Parallel Samples per Tissue Type

Tissue	Amount	Purity*	DNA yield (µg)
Bovine			
Muscle	40 mg	1.87 ± 0.01	9.0 ± 0.1
Heart	20 mg	1.87 ± 0.00	12.2 ± 0.6
Spleen	10 mg	1.88 ± 0.01	27.9 ± 1.1
Lung	10 mg	1.87 ± 0.01	17.0 ± 1.0
Kidney	10 mg	1.88 ± 0.00	18.4 ± 0.45
Mouse			
Tail clips	2 mm	1.88 ± 0.01	18.4 ± 1.4

* Corrected for background at 320 nm.

Average Yields and Purities of DNA Purified from 2 x 10^6 Frozen, Cultured Cells

Dilution buffer	DNA purity (A_{260}/A_{280})†	DNA yield (µg)
PBS	1.88 ± 0.01	6.84 ± 0.88
1x SSC	1.88 ± 0.00	6.96 ± 0.29
6x SSC	1.86 ± 0.05	7.20 ± 0.29
Lysis buffer	1.89 ± 0.01	7.31 ± 0.21
TE	1.88 ± 0.00	6.08 ± 0.14

† Corrected for background at 320 nm.

Genomic DNA Purification Protocols on the App. Package, M48, Genetic Research

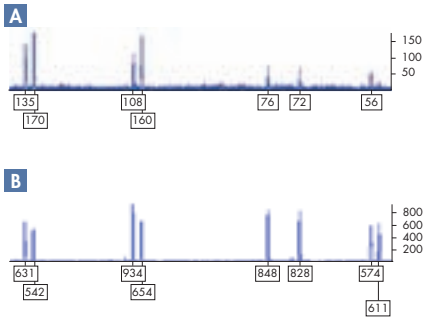
Sample type	Sample volume	Elution volume (µl)
Tissue (biopsies or mouse tails)	200 µl predigested sample	50–200
Cultured cells	200 µl resuspended	50–100

Product	Contents	Cat. no.
App. Package, M48, Genomic Research v1.2	Software protocol package for genomic research applications on the BioRobot M48 workstation	9016148

For further information: www.qiagen.com/PG/DNAhuman

Automated

Higher Signal-to-Noise Ratios with DNA Purified from Bloodstained Fabric



DNA was purified from dried blood (800 white blood cells) on cotton fabric and used for STR analysis. After proteinase K digestion, DNA was purified on the BioRobot M48 workstation using the MagAttract DNA Mini M48 Kit and A the v1.0 trace protocol on the App. Package, M48, Forensics v1.0 or B the v2.0 trace protocol on the App. Package, M48, Forensics v2.0. PCR products were analyzed on an ABI PRISM® 3100 Genetic Analyzer with Genotyper® software (Data kindly provided by M. Steinlechner, Institute of Legal Medicine, Innsbruck Medical University, Innsbruck, Austria).

Genomic DNA Purification Protocols on the App. Package, M48, Forensics

Sample type	Protocol	Elution volume (µl)
Forensic trace	Trace Sample v3.1	50–400
Solid samples	Trace TD v1.1	50–400
Pretreated samples up to 500 µl	Large Volume v1.1	50–400
Forensic trace or reference samples	Normalization v1.1	50–400

New App. Package, M48, Forensics v2.1

For easy setup of protocols for forensic and biosecurity applications using the BioRobot M48 workstation (page 364) and the MagAttract DNA Mini M48 Kit (page 46)

- More efficient yields — including from trace casework samples
- Higher signal-to-noise ratios — for sensitive downstream detection assays
- Easier handling — swabs, blood discs, cigarette butts, and other solid samples can be processed directly on the BioRobot M48 workstation
- More optimized protocols — including larger starting volumes (500 µl) for more dilute samples and normalization for uniform yields
- Flexible elution volumes — elute in 50, 75, 100, 150, 200, 250, 300, or 400 µl of water or TE buffer

Product description

The App. Package, M48, Forensics is a CD-ROM containing protocols for DNA purification from trace and reference forensic samples. These protocols provide operating commands for the workstation and allow easy setup through comprehensive, on-screen instructions.

Applications

The package is highly suited for many applications, such as:

- Genotyping, including fingerprinting and paternity analysis
- Purification of DNA from trace samples, such as casework or crime-scene samples
- DNA extraction from filters used in environmental testing
- Routine analysis of reference samples

The App. Package, M48, Forensics v2.1 is intended for research use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Product	Contents	Cat. no.
App. Package, M48, Forensics v2.1	Software protocol package for forensics applications, v2.1, on the BioRobot M48 workstation	9016150

For further information: www.qiagen.com/PG/DNAhuman

Automated

App. Package, M48, Pathology v1.1

For easy setup of protocols for pathology applications using the BioRobot M48 workstation (page 364) and the MagAttract DNA Mini M48 Kit (page 46)

- Easy protocol setup — for robust processing of paraffin sections
- Standardized processing — preset protocols ensure low variability and error-free setup
- Increased processing capacity — with protocols for different amounts of paraffin-embedded tissues

Product description

The App. Package, M48, Pathology is a CD-ROM containing protocols for DNA purification from different amounts of paraffin-embedded tissues. These protocols provide operating commands for the workstation and allow easy setup through comprehensive, on-screen instructions.

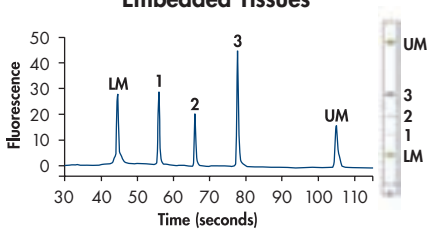
Applications

The purified DNA is suitable for use in many pathology applications, such as:

- Genotyping analysis, including STR, VNTR, RAPD, NASBA, and AFLP technologies
- Population genetics
- Oncology and infectious disease research
- Purification of DNA from archived samples

The App. Package, M48, Pathology v1.1 is intended for research use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Specific PCR using DNA from Paraffin-Embedded Tissues



Bioanalyzer analysis of a PCR of 3 regions (266, 167, and 85 bp) of the human serum albumin gene. This figure shows a result generated using high-quality purified DNA. **LM**: lower marker; **UM**: upper marker; **1**: 86 bp fragment; **2**: 167 bp fragment; **3**: 266 bp fragment.

Genomic DNA Purification Protocols on the App. Package, M48, Genetic Pathology

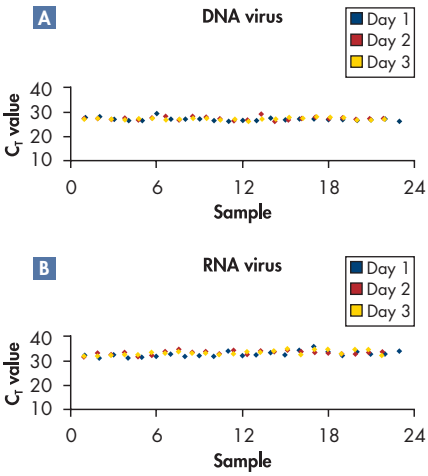
Sample type	Sample amount	Elution volume (µl)
Paraffin-embedded tissues	1–2 10 µm thick sections	75–200

Product	Contents	Cat. no.
App. Package, M48, Pathology v1.1	Software protocol package for pathology applications on the BioRobot M48 workstation	9016151

For further information: www.qiagen.com/PG/DNAhuman

Automated

Highly Reproducible Purification



A negative plasma pool was spiked on each of 3 days with a typical DNA or RNA virus. Viral nucleic acids were purified from 24 aliquots (400 µl each) of each pool using the MagAttract Virus Mini M48 Kit, with elution in a volume of 125 µl. A Pools were spiked with 10^5 copies/ml of a typical DNA virus. Purified viral DNA (10 µl of each eluate) was analyzed by real-time PCR using the QuantiTect® SYBR® Green PCR Kit (page 196), and C_T values are shown for 24 samples on each day. B Pools were spiked with 10^4 copies/ml of a typical RNA virus. Purified viral RNA (10 µl of each eluate) was analyzed by real-time RT-PCR using the QuantiTect Probe RT-PCR Kit (page 202), and C_T values are shown for 24 samples on each day.

App. Package, M48, Inf. Dis. v3.0

For easy setup of protocols for infectious disease research using the BioRobot M48 workstation (page 364) and MagAttract M48 Kits (pages 46, 47, and 134)

- Easy protocol setup — all infectious disease research protocols on one CD-ROM
- Standardized processing — preset protocols ensure low variability and error-free setup
- Increased processing capacity — with protocols for viral and bacterial nucleic acid purification

Product description

The App. Package, M48, Inf. Dis. is a CD-ROM containing protocols for bacterial DNA purification from culture and primary samples and viral nucleic acid purification from plasma, serum, and CSF samples. These protocols provide operating commands for the workstation and comprehensive, on-screen instructions for easy setup.

Applications

The kits can be used to purify nucleic acids from a broad range of DNA and RNA viruses or DNA from a broad range of bacteria for life science applications.

The App. Package, M48, Inf. Dis. v3.0 is intended for research use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Protocols on the App. Package, M48, Inf. Dis.

Sample type	Sample volume (µl)	Elution volume (µl)	Kit
Bacterial cultures	200	50–200	DNA Mini
Primary samples (bacterial DNA)	200	50–200	DNA Mini
Serum or plasma (viral RNA)	300	50–100	Viral RNA
Serum or plasma (viral nucleic acids)	400	50–150	Virus Mini

Product	Contents	Cat. no.
App. Package, M48, Inf. Dis. (CD) v.3.0	Software protocol package for infectious disease research applications on the BioRobot M48 workstation	9016145

For further information: www.qiagen.com/PG/DNAhuman

Automated

MagAttract DNA Blood M48 Kits

For automated purification of genomic DNA from 100–200 µl or 250–350 µl blood samples using the BioRobot M48 workstation (page 364)

- Rapid purification — of up to 6 or 11 µg high-quality DNA
- Flexible purification — of 6–48 samples per run
- Easy optimization of DNA concentration — using variable elution volumes

Product description

MagAttract DNA Blood M48 Kits provide automated purification of genomic DNA on the BioRobot M48 workstation using proven MagAttract magnetic-particle technology. DNA purification and magnetic separation take place in the pipet tips, increasing the efficiency of the procedure. Up to 48 samples can be processed per run in increments of 6 samples.

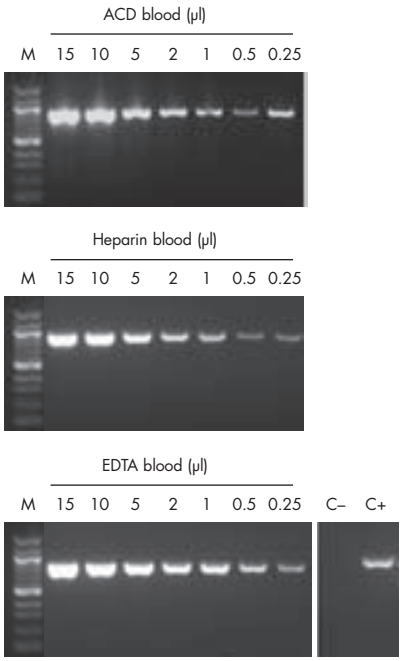
Applications

The high-quality DNA obtained using MagAttract DNA Blood M48 Kits and the BioRobot M48 workstation is suited for use in many downstream applications, such as:

- Genotyping analysis, including STR, VNTR, RAPD, NASBA, and AFLP technologies
- Population genetics and oncology research
- Pharmacogenomic research

MagAttract DNA Blood M48 Kits are intended for general laboratory use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Sensitive and Specific PCR



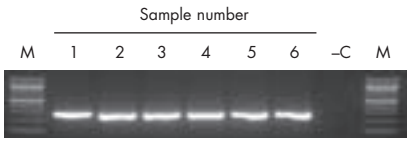
Amplification (34 cycles) of the MECL-1single-copy gene (900 bp fragment) from dilution series of DNA purified from 200 µl ACD-, heparin- and EDTA-preserved whole blood samples. **M**:100 bp DNA ladder; **C–**: negative control; **C+**: positive control.

Product	Contents	Cat. no.
MagAttract DNA Blood Mini M48 Kit (192)	For 192 DNA preps: MagAttract Suspension B, Buffers	951336
MagAttract DNA Blood Midi M48 Kit (192)	For 192 DNA preps: MagAttract Suspension B, Buffers	951356

For further information: www.qiagen.com/PG/DNAhuman

Automated

Consistent PCR



PCR of GAPDH using MagAttract purified DNA from six mouse tails. **M**:100 bp marker; **–C**: negative control.

MagAttract DNA Mini M48 Kit

For automated purification of genomic DNA from 200 µl lysates of a wide range of human samples using the BioRobot M48 workstation (page 364)

- Automated purification of high-quality DNA — from 200 µl lysates of a wide range of sample types
- Flexible purification — from 6–48 samples of tissue, cells, buccal swabs, dried blood, forensic samples, paraffin-embedded tissues, or bacteria

Product description

The MagAttract DNA Mini M48 Kit provides automated purification of genomic DNA on the BioRobot M48 workstation using proven MagAttract magnetic-particle technology. DNA purification and magnetic separation take place in the pipet tips, increasing the efficiency of the procedure. Up to 48 samples can be processed per run in increments of 6 samples.

Applications

The high-quality DNA obtained using the MagAttract DNA Mini M48 Kit and the BioRobot M48 workstation is suited for use in many downstream applications such as:

- Genotyping analysis, including STR, SNP, VNTR, RAPD, NASBA, and AFLP technologies
- Infectious disease and oncology research
- Purification of DNA from archived samples
- Population genetics
- Biodefense research

The MagAttract DNA Mini M48 Kit is intended for general laboratory use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Product	Contents	Cat. no.
MagAttract DNA Mini M48 Kit (192)	For 192 DNA preps: MagAttract Suspension B, Buffers, Proteinase K	953336

For further information: www.qiagen.com/PG/DNAhuman

Automated

MagAttract Virus Mini M48 Kit

For simultaneous purification of viral DNA and RNA from serum and plasma using the BioRobot M48 workstation (page 364)

- High sensitivity — high yields even with low viral titers for highly sensitive detection
- No detectable cross-contamination — from up to 48 samples containing RNA or DNA viruses
- Linear yields — efficient purification over a range of viral titers
- Walkaway processing — for ease of use and efficient workflows

Product description

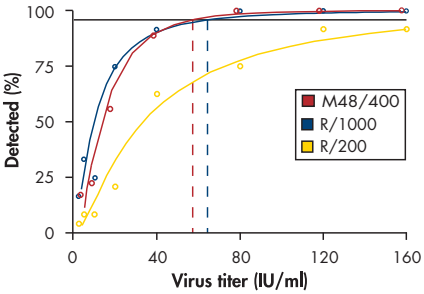
The MagAttract Virus Mini M48 Kit provides automated purification of viral DNA and RNA on the BioRobot M48 workstation using proven MagAttract magnetic-particle technology. Viral nucleic acid purification and magnetic separation take place in the pipet tips, increasing the efficiency of the procedure. Up to 48 samples can be processed per run in increments of 6 samples.

Applications

The MagAttract Virus Mini M48 Kit provides simultaneous purification of viral DNA and RNA from serum, plasma, and other cell-free body fluids for highly sensitive detection in downstream assays. The kit can be used to purify nucleic acids from a broad range of DNA and RNA viruses for life science applications.

The MagAttract Virus Mini M48 Kit is intended for general laboratory use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

High Sensitivity for Reliable Detection



Serial dilutions from a negative plasma pool spiked with an international standard of a typical DNA virus were processed in replicates of 24, using the MagAttract Virus Mini M48 Kit with a 400 µl input volume (M48/400), or using automated kits from Supplier R with a 1000 µl (R/1000) or 200 µl (R/200) input volume. Samples were analyzed by real-time duplex PCR with an internal control. The vertical lines show the 95% hit rate, at which detection by PCR can be expected with a 95% probability.

Product	Contents	Cat. no.
MagAttract Virus Mini M48 Kit (192)	For 192 virus nucleic acid preps: MagAttract Suspension B and RNase-Free Reagents and Buffers	955336

For further information: www.qiagen.com/PG/DNAhuman

Animal, plant, and microorganism genomic DNA selection guide

Sample type	Manual: Spin column						Manual: 96-well plate		Automated: BioSprint 15		Automated: BioSprint 96		Automated: BioRobot EZ1		Automated: BioRobot M48		Automated: BioRobot Plant Science
	DNeasy Blood & Tissue Kit (pages 50–51)	DNeasy Plant Kit (page 52)	QIAamp DNA Stool Kit (page 20)	DNeasy 96 Blood & Tissue Kit (pages 50–51)	DNeasy 96 Plant Kit (page 52)	BioSprint 15 DNA Blood Kit (page 53)	BioSprint 15 DNA Plant Kit (page 54)	BioSprint 96 DNA Blood Kit (page 55)	BioSprint 96 DNA Plant Kit (page 56)	EZ1 DNA Tissue Kit (page 36)	MagAttract DNA Mini M48 Kit (page 46)	MagAttract 96 DNA Plant Kit (page 57)					
Animal blood (non-nucleated erythrocytes)	■						■		■		■		■		■	†	
Animal blood (nucleated erythrocytes)	■						■		■		■		■		■		
Animal buccal swabs	■		*				■	*	■	‡‡	■	‡‡	■		■		
Animal dried blood spots	■		*				■	*	■	‡‡	■	‡‡	■		■		
Animal ear punches/rodent tail	■						■		■	‡‡	■	‡‡	■		■		
Animal stool				■											■		
Animal tissue§	■						■		■	‡‡	■	‡‡	■		■		
Bacteria (Gram-negative and -positive)	■			■			■		■				■		■		
Cells§	■						■		■		■		■		■		
Fixed tissue (formalin, paraffin)	■						■		■				■		■		
Fungi			■				■						■		■		■
Hair	■						■						■		■		
Insects	■						■										
Plant tissue			■				■		■		■						■
Saliva	■												■		■		
Soil													■		■		
Virus DNA	■												■		■		
Yeast	■						■										

■: Recommended kit

* No QIAGEN protocol but in-house or customer data available.

† User developed protocol. For more details, contact QIAGEN Technical Services or visit www.qiagen.com .

‡ Additional buffers required.

§ The AllPrep DNA/RNA Mini Kit provides simultaneous purification of genomic DNA and total RNA (see page 161).

DNA from forensic animal and plant samples

	DNeasy Blood & Tissue Kit (pages 50–51)	DNeasy Plant Kits (page 52)	BioSprint 15 DNA Blood Kit (page 53)	BioSprint 15 DNA Plant Kit (page 54)	BioSprint 96 DNA Blood Kit (page 55)	BioSprint 96 DNA Plant Kit (page 56)	MagAttract 96 DNA Plant Kit (page 57)	DNeasy 96 Blood & Tissue Kit (pages 50–51)	DNeasy 96 Plant Kit (page 52)
	Manual		Automated systems					Manual or automated*	
Samples/run	1–24		1–15		96				
Animal blood	■		■		■			■	
Animal tissues	■		■†		■†			■	
Fungi		■							■
Hair	■							■	
Insects	■							■	
Plant tissues		■		■		■	■		■
Yeast	■							■	

■: Recommended kit.

* No QIAGEN automated protocol available; customized setup possible on BioRobot systems.

† Additional buffers and protocol required; please inquire.

Typical DNA Yields from Animal Tissues Using DNeasy Blood & Tissue Kits

Source	Amount	DNA (µg)
Mammalian blood	100 µl	3–6
Bird blood	5 µl	9–40
HeLa cells	2 x 10^6	15–25
Liver	25 mg	10–30
Brain	25 mg	15–30
Kidney	25 mg	15–30
Spleen	10 mg	5–30
Mouse tail	1.2 cm (tip)	10–25
Rat tail	0.6 cm (tip)	20–40
Pig ear	25 mg	10–30
Horse hair	10 hairs	2–4
Fish fin	20 mg	10–20
Fish spawn (mackerel)	10 mg	5–10

New DNeasy® Blood & Tissue Kits

For purification of total DNA from animal blood and tissues, and from cells, yeast, bacteria, or viruses

- Reproducible DNA purification — standardized method for reliable results with a variety of sample types
- High yields — efficient purification even from specialized samples
- High-quality DNA — for sensitive downstream applications, including multiplex and quantitative PCR
- Optimized protocols — for a wide range of starting materials
- Formats for different throughput requirements — spin-column and 96-well high-throughput formats

Product description

DNeasy Blood & Tissue Kits provide fast and easy silica-based DNA purification in convenient spin-column and 96-well-plate formats. Most samples can be directly lysed with proteinase K, eliminating the need for mechanical disruption and reducing hands-on time. Optimized protocols for specific sample types provide reproducible purification of high-quality DNA for life science, genotyping, and veterinary pathogen research applications.

Applications

Purified DNA is free from PCR inhibitors, enabling sensitive detection in standard, multiplex, and real-time PCR. DNeasy Blood & Tissue Kits provide high-quality DNA, ready to use in all downstream assays, including applications in:

- Life science research
- Livestock breeding
- Pedigree genotyping
- Veterinary pathogen research
- Routine applied testing

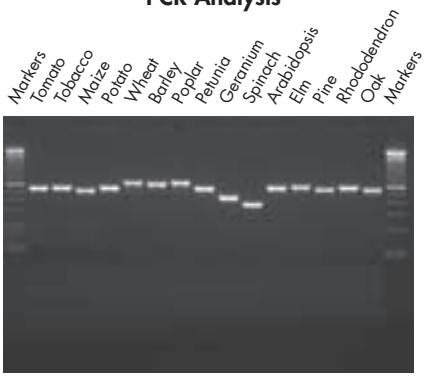
DNeasy Blood & Tissue Kits are intended for research use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Product	Contents	Cat. no.
DNeasy Blood & Tissue Kit (50)	50 DNeasy Mini Spin Columns, Proteinase K, Buffers, Collection Tubes (2 ml)	69504
DNeasy Blood & Tissue Kit (250)	250 DNeasy Mini Spin Columns, Proteinase K, Buffers, Collection Tubes (2 ml)	69506
DNeasy 96 Blood & Tissue Kit (4)*	For 4 x 96 DNA minipreps: 4 DNeasy 96 Plates, Proteinase K, Buffers, S-Blocks, AirPore Tape Sheets, Collection Microtubes (1.2 ml), Elution Microtubes RS, Caps, 96-Well Plate Registers	69581
DNeasy 96 Tissue Kit (12)*	For 12 x 96 DNA minipreps: 12 DNeasy 96 Plates, Proteinase K, Buffers, S-Blocks, AirPore Tape Sheets, Collection Microtubes (1.2 ml), Elution Microtubes RS, Caps, 96-Well Plate Registers	69582

* Requires use of the QIAGEN 96-Well-Plate Centrifugation System (page 396).

For further information: www.qiagen.com/PG/DNAanimalplant

PCR Analysis



DNA (10 ng) isolated from the indicated leaves or needles using the DNeasy Plant Mini Kit was used for PCR. Universal primers were used for amplification of the noncoding intergenic spacer between the tRNA genes trnL (UAA) 5′ exon and trnL (UAA) 3′ exon of cpDNA (Taberlet, P., et al., 1991, Plant Mol. Biol., **17**, 1105–1109). Markers: 100 bp ladder.

DNeasy Plant Kits

For isolation of total cellular DNA from plant cells and tissues, or fungi

- Pure DNA, free from contaminants and enzyme inhibitors
- Rapid isolation of ready-to-use DNA
- No organic extraction, no ethanol precipitation

Product description

DNeasy Plant Kits provide fast and easy silica-based DNA purification in spin column and 96-well plate formats. Typical yields are 1–15 µg (96 Kit), 3–30 µg (Mini Kit), and 30–260 µg (Maxi Kit) of high-quality DNA.

Applications

DNeasy purified DNA is sized up to 40 kb, and is suitable for downstream applications such as:

- PCR, Real-time PCR, and multiplex PCR
- RAPD and microsatellite analyses
- RFLP, AFLP, and Southern blotting

DNeasy Plant Kits are intended for research use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Product	Contents	Cat. no.
DNeasy Plant Mini Kit (50)	50 DNeasy and QIAshredder Mini Spin Columns, RNase A, Buffers, Collection Tubes (2 ml)	69104
DNeasy Plant Mini Kit (250)	250 DNeasy and QIAshredder Mini Spin Columns, RNase A, Buffers, Collection Tubes (2 ml)	69106
DNeasy Plant Maxi Kit (6)	6 DNeasy and QIAshredder Maxi Spin Columns, RNase A, Buffers, Collection Tubes (50 ml)	68161
DNeasy Plant Maxi Kit (24)	24 DNeasy and QIAshredder Maxi Spin Columns, RNase A, Buffers, Collection Tubes (50 ml)	68163
DNeasy 96 Plant Kit (6)*	6 DNeasy 96 Plates, Buffers, Reagents, RNase A, S-Blocks, Collection Microtubes (1.2 ml), Caps, AirPore Tape Sheets	69181

* Requires use of the QIAGEN 96-Well-Plate Centrifugation system (page 396).

For further information: www.qiagen.com/PG/DNAanimalplant

Automated

BioSprint 15 DNA Blood Kit

For rapid and economical automated purification of DNA from cells, tissue,* blood, dried blood spots,* and buccal swabs* using the BioSprint 15 workstation

- Purification of high-quality DNA that is ready for use
- Complete removal of contamination and inhibitors
- No organic extraction or alcohol precipitation

Product description

The BioSprint 15 DNA Blood Kit provides all reagents and plasticware necessary for automated purification of genomic DNA from cultured cells, tissue,* blood, dried blood spots,* and buccal swabs* using magnetic-particle technology.

Applications

The BioSprint 15 DNA Blood Kit purifies DNA for use in a range of downstream applications, including:

- PCR and real-time PCR
- Southern blotting
- Microsatellite analysis and genotyping

The BioSprint 15 DNA Blood Kit is intended for research use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Average DNA Yields from a Range of Sample Types

Sample type	Average DNA yield (µg)
Human blood	
200 µl	4.5 – 9.0
Bovine tissue (25 mg)	
Muscle	16.2 ± 2.5
Heart	5.9 ± 2.6
Spleen	69.1 ± 23.6
Lung	13.8 ± 7.2
Liver	77.8 ± 29.4
Kidney	26.2 ± 18.8
Sheep tissue (30 mg)	
Ear	20.3 ± 1.8
Mouse tissue (~25 mg)	
Tail (1.2 cm)	32.7 ± 4.6
Cultured cells (2 x 10^6 cells)	
HL-60 cells	10.1 ± 4.7

Genomic DNA was purified from the indicated samples. DNA was eluted in 200 µl Buffer AE.

* Buffer ATL and QIAGEN Proteinase K (not supplied with the BioSprint 15 DNA Blood Kit) are required when processing tissue and swab samples and dried blood spots.

Product	Contents	Cat. no.
BioSprint 15 DNA Blood Kit (45)	For 45 preps: 5-Rod Covers, 5-Tube Strips, MagAttract Suspension G, Buffers and Reagents	940014
BioSprint 15 DNA Blood Kit (360)	For 360 preps: 5-Rod Covers, 5-Tube Strips, MagAttract Suspension G, Buffers and Reagents	940017
Buffer ATL (200 ml)†	200 ml Tissue Lysis Buffer for 1000 preps	19076
QIAGEN Proteinase K (2 ml)†‡	2 ml (>600 mAU/ml, solution)	19131

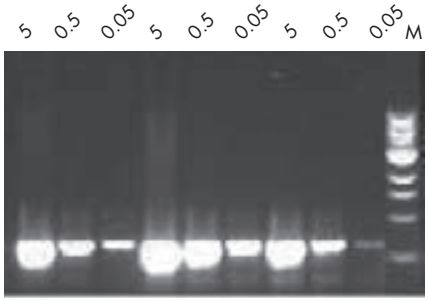
† Required when processing tissue and swab samples and dried blood spots.

‡ Larger size available; please inquire.

For further information: www.qiagen.com/PG/DNAanimalplant

Automated

High PCR Performance



DNA was purified from 50 mg samples of fresh leaf tissue from wheat using the BioSprint 15 DNA Plant Kit and eluted in 200 µl Buffer AE. Amplification (20 µl reaction volume) was carried out using the trnL PCR system (amplifying an intergenic region of a tRNA coding gene in the chloroplast genome) with **5 µl**, **0.5 µl**, or **0.05 µl** purified DNA from 3 different wheat samples. PCR products were visualized on a 0.8% agarose gel. **M**: markers (1 kb ladder).

BioSprint 15 DNA Plant Kit

For rapid and economical automated purification of total DNA from plant tissue using the BioSprint 15 workstation

- Purification of high-quality DNA, ready for use in genotyping applications
- Complete removal of contamination and inhibitors
- No organic extraction or alcohol precipitation
- Automated procedure saves time and effort

Product description

The BioSprint 15 DNA Plant Kit provides automated purification of total DNA from plant tissue on the BioSprint 15 workstation using proven MagAttract magnetic-particle technology. The kit contains all reagents and plasticware necessary for automated DNA purification.

Applications

The BioSprint 15 DNA Plant Kit purifies DNA for use in a range of downstream applications, including:

- PCR
- Real-time PCR
- Microsatellite analysis and genotyping

The BioSprint 15 DNA Plant Kit is intended for research use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Product	Contents	Cat. no.
BioSprint 15 DNA Plant Kit (60)	For 60 preps: 5-Rod Covers, 5-Tube Strips, MagAttract Suspension G, Buffers and Reagents	941514
BioSprint 15 DNA Plant Kit (360)	For 360 preps: 5-Rod Covers, 5-Tube Strips, MagAttract Suspension G, Buffers and Reagents	941517

For further information: www.qiagen.com/PG/DNAanimalplant

Automated

BioSprint 96 DNA Blood Kit

For rapid and economical automated purification of DNA from cells, tissue,* blood, dried blood spots,* and buccal swabs* using the BioSprint 96 workstation (page 369)

- Purification of high-quality DNA that is ready for use
- Complete removal of contamination and inhibitors for reliable downstream applications
- No organic extraction or alcohol precipitation

Product description

The BioSprint 96 DNA Blood Kit provides all reagents and plasticware necessary for automated purification of genomic DNA from cultured cells, tissue,* blood, dried blood spots,* and buccal swabs* using magnetic-particle technology.

Applications

The BioSprint 96 DNA Blood Kit purifies DNA for use in a range of downstream applications, including:

- PCR and real-time PCR
- Southern blotting
- Microsatellite analysis and genotyping

The BioSprint 96 DNA Blood Kit is intended for research use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Average DNA Yields from a Range of Sample Types

Sample type	Average DNA yield (µg)
Human blood	
200 µl	4.5 – 9.0
Bovine tissue (25 mg)	
Muscle	13.5 ± 1.5
Heart	3.4 ± 0.6
Spleen	59.1 ± 4.8
Lung	14.7 ± 5.5
Liver	74.0 ± 22.3
Kidney	33.5 ± 5.4
Mouse tissue (~25 mg)	
Tail (1.2 cm)	30.9 ± 4.5
Cultured cells (2 x 10^6 cells)	
HL-60 cells	9.6 ± 5.6

Genomic DNA was purified from the indicated samples. DNA was eluted in 200 µl Buffer AE.

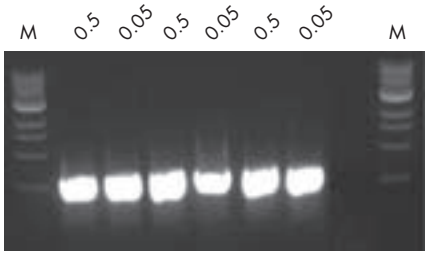
* Buffer ATL and QIAGEN Proteinase K (not supplied with the BioSprint 96 DNA Blood Kit) are required when processing tissue and swab samples and dried blood spots (see page 383 for ordering information).

Product	Contents	Cat. no.
BioSprint 96 DNA Blood Kit (48)	For 48 preps: Large 96-Rod Covers, 96-Well Microplates MP, S-Blocks, MagAttract Suspension G, Buffers and Reagents	940054
BioSprint 96 DNA Blood Kit (384)	For 384 preps: Large 96-Rod Covers, 96-Well Microplates MP, S-Blocks, MagAttract Suspension G, Buffers and Reagents	940057

For further information: www.qiagen.com/PG/DNAanimalplant

Automated

High PCR Performance



DNA was purified from 50 mg samples of fresh leaf tissue from rose using the BioSprint 96 DNA Plant Kit and eluted in 200 µl Buffer AE. Amplification (20 µl reaction volume) was carried out using the trnL PCR system (amplifying an intergenic region of a tRNA coding gene in the chloroplast genome) with **0.5 µl**, or **0.05 µl** purified DNA from 3 rose samples. PCR products were visualized on a 0.8% agarose gel. **M**: markers (1 kb ladder).

BioSprint 96 DNA Plant Kit

For rapid and economical automated purification of total DNA from plant tissue using the BioSprint 96 workstation (page 369)

- Purification of high-quality DNA, ready for use in genotyping applications
- Complete removal of contamination and inhibitors
- No organic extraction or alcohol precipitation
- Automated procedure saves time and effort

Product description

The BioSprint 96 DNA Plant Kit provides automated purification of total DNA from plant tissue on the BioSprint 96 workstation (page 369) using proven MagAttract magnetic-particle technology. The kit contains all reagents and plasticware necessary for automated DNA purification.

Applications

The BioSprint 96 DNA Plant Kit purifies DNA for use in a range of downstream applications, including:

- PCR
- Real-time PCR
- Microsatellite analysis and genotyping

The BioSprint 96 DNA Plant Kit is intended for research use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Product	Contents	Cat. no.
BioSprint 96 DNA Plant Kit (576)	For 576 preps: Large 96-Rod Covers, 96-Well Microplates MP, S-Blocks, MagAttract Suspension G, Buffers and Reagents	941557
BioSprint 96 DNA Plant Kit (1536)	For 1536 preps: Large 96-Rod Covers, 96-Well Microplates MP, S-Blocks, MagAttract Suspension G, Buffers and Reagents	941558

For further information: www.qiagen.com/PG/DNAanimalplant

Automatable

MagAttract 96 DNA Plant Kit

For efficient, high-throughput, manual or automated purification of total cellular DNA from plant tissue

- An economical solution
- Reproducible yields of pure, ready-to-use DNA
- A simple, rapid, and reliable procedure
- A manual protocol for initial evaluation, or automation using the BioRobot Plant Science system — Genotyping, or BioRobot RapidPlate workstation (page 372)

Product description

The MagAttract 96 DNA Plant Kit combines the efficiency of silica-based DNA purification with the convenient handling offered by magnetic particles, in manual, semi-automated, or automated 96-well plate format.

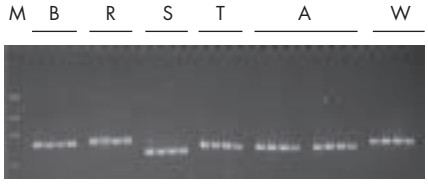
Applications

The MagAttract 96 DNA Plant Kit provides high yields of DNA from many plant species. The purified DNA is up to 40 kb in size with fragments of 23 kb predominating, and is ready to use in a range of downstream applications, including:

- PCR (see figure), real-time PCR, and multiplex PCR
- Microsatellite analysis and SNP genotyping

The MagAttract 96 DNA Plant Kit is intended for research use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Successful PCR Analysis



DNA from different plants was analyzed using the universal trnL PCR System (amplifying an intergenic region of a tRNA coding gene in the chloroplast genome). **B**: barley; **R**: rye; **S**: sunflower; **T**: tomato; **A**: arabidopsis; **W**: wheat; **M**: markers.

Product	Contents	Cat. no.
MagAttract 96 DNA Plant Core Kit (6)*	MagAttract Suspension A and buffers for 6 x 96 minipreps	67161
MagAttract 96 DNA Plant Core Kit (24)*	MagAttract Suspension A and buffers for 24 x 96 minipreps	67163
MagAttract 96 DNA Plant Core Kit (240)*	MagAttract Suspension A and buffers for 240 x 96 minipreps	67165

* Requires use of the QIAGEN 96-Well-Plate Centrifugation system (page 396) and a mixer mill, such as the TissueLyser (page 392). Manual procedures require use of a 96-well compatible magnet. Automated procedures are performed using the BioRobot Plant Science workstation or BioRobot RapidPlate workstation (page 372).

For further information: www.qiagen.com/PG/DNAanimalplant

QIAprep® Spin M13 Kit

For purification of up to 10 µg single-stranded phage DNA

- 24 single-stranded phage DNA preps in 30 minutes
- Up to 10 µg DNA from 3 ml phage supernatant
- No extractions or precipitations

Product description

The QIAprep Spin M13 Kit provides silica-based spin columns suitable for processing by vacuum or centrifugation. The kit yields high-purity single-stranded DNA ideal for sequencing and site-directed mutagenesis.

QIAGEN Lambda Kits

For preparation of ultrapure lambda DNA

- Purity equivalent to that obtained by 2 x CsCl gradient centrifugation
- Reproducible yields of ultrapure lambda DNA
- No phenol, chloroform, or CsCl

Product description

QIAGEN Lambda Kits provide anion-exchange–based gravity-flow columns for lambda DNA purification. The simple bind-wash-elute procedure yields ultrapure DNA. DNA yields are highly reproducible and DNA is suitable for automated or manual sequencing, PCR, and in vitro packaging.

Product	Contents	Cat. no.
QIAprep Spin M13 Kit (50)	For 50 ssDNA preps: 50 QIAprep Spin Columns, Buffers, Collection Tubes (2 ml)	27704
QIAGEN Lambda Mini Kit (25)	25 QIAGEN-tip 20, Reagents, Buffers	12523
QIAGEN Lambda Midi Kit (25)	25 QIAGEN-tip 100, Reagents, Buffers	12543
QIAGEN Lambda Maxi Kit (10)	10 QIAGEN-tip 500, Reagents, Buffers	12562

For further information: www.qiagen.com/PG/DNAanimalplant

QIAGEN Genomic-tips

For isolation of high-molecular-weight DNA from a wide range of samples

- Reliable isolation of DNA up to 150 kb in size
- No phenol or chloroform extractions
- Convenient, parallel processing of multiple samples

Product description

QIAGEN Genomic-tips are gravity-flow, anion-exchange tips that allow efficient purification of genomic DNA from a wide range of biological samples. The purified DNA is sized up to 150 kb with an average size of 50–100 kb.

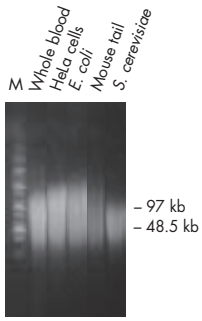
Applications

The QIAGEN Genomic-tip procedure is very gentle and results in negligible DNA shearing. The DNA is free of all contaminants such as RNA, protein, and metabolites, and has A_{260}/A_{280} ratios between 1.7 and 1.9, making it well suited for use in the following applications:

- RFLP analysis and PCR amplification
- Analysis of gene targeting
- DNA fingerprinting studies and Southern blotting
- Direct bacterial-genome sequencing

QIAGEN Genomic-tips are intended for research use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Genomic DNA of up to 150 kb



Pulse-field gel electrophoresis of DNA (2 µg) purified using QIAGEN Genomic-tips. **M**: markers.

Product	Contents	Cat. no.
QIAGEN Genomic-tip 20/G	25 columns	10223
QIAGEN Genomic-tip 100/G	25 columns	10243
QIAGEN Genomic-tip 500/G	10 columns	10262
Genomic DNA Buffer Set*	Buffers, including specific lysis buffers for yeast, bacteria, cells, blood, and tissue: Y1, B1, B2, C1, G2, QBT, QC, QF; for 75 mini-, 25 midi-, or 10 maxipreps	19060

* Enzymes must be purchased separately.

For further information: www.qiagen.com/PG/HmwDNA

Blood & Cell Culture DNA Kits

For isolation of high-molecular-weight DNA from blood and cultured cells

- Reliable isolation of DNA up to 150 kb in size
- No phenol or chloroform extractions
- Convenient, parallel processing of multiple samples

Product description

Blood & Cell Culture DNA Kits provide gravity-flow, anion-exchange tips and buffers for the efficient purification of genomic DNA from a wide range of biological samples. The purified DNA is sized up to 150 kb with an average size of 50–100 kb.

Applications

Blood & Cell Culture DNA Kits are ready-to-use kits containing QIAGEN Genomic-tips and all the necessary components for purification of high-molecular-weight DNA from blood and cultured cells. The QIAGEN Genomic-tip procedure is very gentle and results in negligible DNA shearing. The DNA is free of all contaminants such as RNA, protein, and metabolites, and has A_{260}/A_{280} ratios between 1.7 and 1.9, making it well suited for use in the following applications:

- RFLP analysis and PCR amplification
- Analysis of gene targeting
- Screening of transgenic animals
- DNA fingerprinting studies and Southern blotting
- Direct bacterial-genome sequencing

Blood & Cell Culture DNA Kits are intended for research use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Product	Contents	Cat. no.
Blood & Cell Culture DNA Mini Kit (25)	25 QIAGEN Genomic-tip 20/G, QIAGEN Protease, Buffers	13323
Blood & Cell Culture DNA Midi Kit (25)	25 QIAGEN Genomic-tip 100/G, QIAGEN Protease, Buffers	13343
Blood & Cell Culture DNA Maxi Kit (10)	10 QIAGEN Genomic-tip 500/G, QIAGEN Protease, Buffers	13362

For further information: www.qiagen.com/PG/HmwDNA

REPLI-g® Mini and Midi Kits

For highly uniform whole genome amplification from small or precious samples

- Reproducible amplification from a variety of starting materials — including genomic DNA, fresh or dried blood, buccal swabs, fresh or frozen tissue, and cells
- Highly uniform amplification — for reliable and unbiased results
- Only one sample collection required — obtain unlimited DNA for all downstream applications
- Standardized and consistent DNA yields — enabling direct use in downstream applications without quantification

Product description

REPLI-g Mini and Midi Kits provide DNA polymerase, buffers, and reagents for whole genome amplification from small samples using Multiple Displacement Amplification (MDA). Typical DNA yields per 50 µl reaction are up to 10 µg (Mini Kit) and 40 µg (Midi Kit). The average product length is typically greater than 10 kb, with a range between 2 kb and 100 kb.

Applications

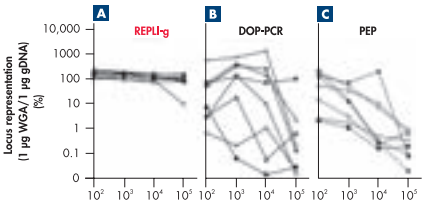
REPLI-g amplified genomic DNA can be used in a variety of downstream applications, including:

- SNP and STR genotyping analysis
- RFLP and Southern blot analysis
- Comparative genome hybridization (CGH)
- Single-cell analysis

REPLI-g amplified DNA can be used on all genotyping platforms.

REPLI-g Mini and Midi Kits are intended for research use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Highly Representative Amplification Using REPLI-g Technology



The relative representation of 8 loci was determined using real-time quantitative PCR for DNA amplified using A REPLI-g technology B DOP-PCR and C PEP. Locus representation was determined by comparison to 1 µg of unamplified control DNA.

Schematic Representation of REPLI-g Amplification

Phi 29 DNA polymerase moves along the DNA template strand displacing the complementary strand. The displaced strand becomes a template for replication allowing high yields of high-molecular-weight DNA to be generated.

Product	Contents	Cat. no.
REPLI-g Mini Kit (25)	DNA Polymerase, Buffers, and Reagents for 25 x 50 µl whole genome amplification reactions	150023
REPLI-g Mini Kit (100)	DNA Polymerase, Buffers, and Reagents for 100 x 50 µl whole genome amplification reactions	150025
REPLI-g Midi Kit (25)	DNA Polymerase, Buffers, and Reagents for 25 x 50 µl whole genome amplification reactions	150043
REPLI-g Midi Kit (100)	DNA Polymerase, Buffers, and Reagents for 100 x 50 µl whole genome amplification reactions	150045
REPLI-g Human Control Kit (25)	Human control DNA for 25 x 50 µl whole genome amplification reactions	150090

For further information: www.qiagen.com/PG/WGA

New REPLI-g UltraFast Mini Kit

For ultrafast highly uniform whole genome amplification from small or precious samples

- Fast procedure with renowned REPLI-g quality — from DNA to assay in 1–1.5 hours
- Reproducible amplification from a variety of starting materials — including genomic DNA, fresh or dried blood, buccal swabs, fresh or frozen tissue, and cells
- Highly uniform amplification — for reliable, unbiased results
- Standardized and consistent DNA yields — enabling direct use in downstream applications without quantification

Product description

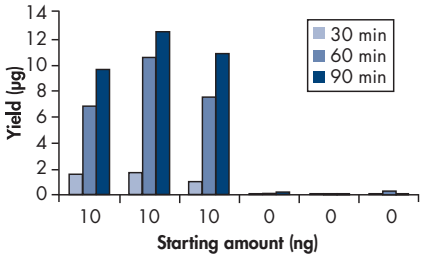
The REPLI-g UltraFast Kit provides DNA polymerase, buffers, and reagents for whole genome amplification from small samples using Multiple Displacement Amplification (MDA). The fast 1–1.5-hour procedure results in typical DNA yields of 7 µg per 20 µl reaction. The average product length is typically greater than 10 kb, with a range between 2 kb and 100 kb.

Applications

REPLI-g amplified genomic DNA can be used in a variety of downstream applications, including SNP and STR genotyping analysis, RFLP and Southern blot analysis, and comparative genome hybridization. REPLI-g amplified DNA can be used on all genotyping platforms.

The REPLI-g UltraFast Mini Kit is intended for research use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Reproducible and Specific Genome Amplification

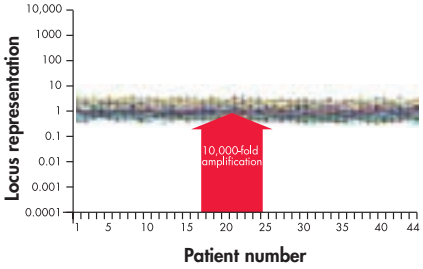


The REPLI-g UltraFast Mini Kit was used to amplify 3 DNA samples (10 ng each) and 3 negative control samples (containing no template DNA). The DNA yield was determined after amplification for 30, 60, and 90 minutes. An average yield of 8 µg was obtained after amplification for 60 minutes, while 10–13 µg DNA was obtained after amplification for 90 minutes. No DNA was detected in the negative control reactions.

Product	Contents	Cat. no.
REPLI-g UltraFast Mini Kit (25)	DNA Polymerase, Buffers, and Reagents for 25 x 20 µl whole genome amplification reactions	150033
REPLI-g UltraFast Mini Kit (100)	DNA Polymerase, Buffers, and Reagents for 100 x 20 µl whole genome amplification reactions	150035
REPLI-g Human Control Kit (25)	Human control DNA for 25 x 20 µl whole genome amplification reactions	150090

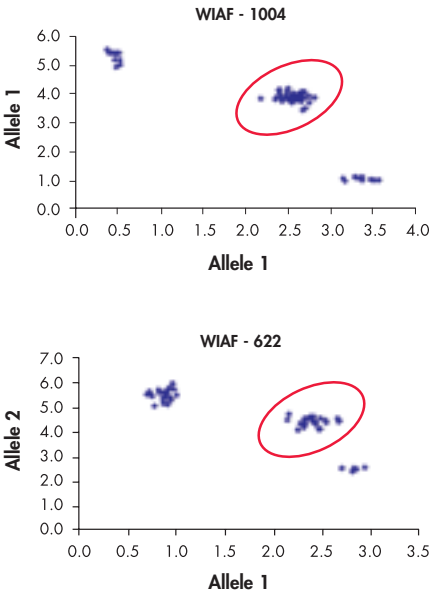
For further information: www.qiagen.com/PG/WGA

Consistent and Accurate Whole Genome Amplification



Real-time PCR was performed on 47 human loci (2 loci on each autosomal pair, 2 loci on the X chromosome[s], and 1 locus on the Y chromosome) from 44 different samples amplified using REPLI-g technology. Each sample was amplified approximately 10,000-fold with a maximum bias of representation between the loci being only 6-fold.

Reliable SNP Genotyping



DNA amplified using REPLI-g technology, without subsequent purification, was subjected to SNP genotyping at 2 randomly selected loci (WIAF-1004 and WIAF-622) using TaqMan® analysis. Tight clusters of alleles allow reliable determination of genotyping of homo- and heterozygote genotypes.

REPLI-g Screening Kit

For high-throughput manual or automated whole genome amplification from small or precious samples

- Reproducible amplification from a variety of starting materials — including genomic DNA, fresh or dried blood, buccal swabs, fresh or frozen tissue, and cells
- Highly uniform amplification — reliable and unibiased results
- Only one sample collection required — obtain unlimited DNA for all your downstream applications
- Standardized and consistent DNA yields — enabling direct use in downstream applications without quantification

Product description

The REPLI-g Screening Kit provides DNA polymerase, buffers, and reagents for whole genome amplification from small samples using Multiple Displacement Amplification (MDA). The gentle thermal denaturation step makes this kit ideal for manual or automated high-throughput DNA amplification. Typical DNA yields per 40 µl reaction are up to 8 µg. The average product length is typically greater than 10 kb.

Applications

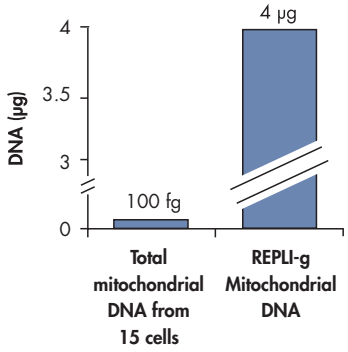
REPLI-g amplified genomic DNA can be used in a variety of downstream applications, including SNP and STR genotyping analysis, RFLP and Southern blot analysis, and comparative genome hybridization. REPLI-g amplified DNA can be used on all genotyping platforms.

The REPLI-g Screening Kit is intended for research use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Product	Contents	Cat. no.
REPLI-g Screening Kit (200)	DNA Polymerase, Buffers, and Reagents for 200 x 40 µl reactions	150126
REPLI-g Screening Kit (1000)	DNA Polymerase, Buffers, and Reagents for 1000 x 40 µl reactions	150127
REPLI-g Human Control Kit (25)	Human control DNA for 25 x 40 µl whole genome amplification reactions	150090

For further information: www.qiagen.com/PG/WGA

Enrichment of Mitochondrial DNA



100 ng total DNA (representing approximately 15 cells) containing approximately 100 fg of mitochondrial DNA was amplified using the REPLI-g Mitochondrial DNA Kit. The total yield of mitochondrial DNA after amplification was up to 4 µg, corresponding to a $4x10^7$ increase in mitochondrial DNA.

New REPLI-g Mitochondrial DNA Kit

For highly uniform whole genome amplification from human mitochondria

- High sensitivity — from varying starting amounts and different starting material
- Accurate and reproducible results — even from small amounts of mitochondria
- Reliable data (e.g., identity testing) from previously "useless" samples — dependable results from samples with highly degraded nuclear DNA
- Simplified sample collection and shipment — DNA from blood cards and hair can be used

Product description

The REPLI-g Mitochondrial DNA Kit provides DNA polymerase, buffers, and reagents for whole mitochondrial genome amplification from small samples of mitochondrial DNA using Multiple Displacement Amplification (MDA). Typical DNA yields per 50 µl reaction are approximately 4 µg. The average product length is typically greater than 10 kb.

Applications

REPLI-g amplified mitochondrial DNA can be used in a variety of downstream applications, including:

- SNP and STR genotyping analysis
- RFLP and Southern blot analysis

REPLI-g amplified DNA can be used on all genotyping platforms.

The REPLI-g Mitochondrial DNA Kit is intended for research use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

Product	Contents	Cat. no.
REPLI-g Mitochondrial DNA Kit (25)	DNA Polymerase, Buffers, and Reagents for 25 x 50 µl whole mitochondrial genome amplification reactions	151023
REPLI-g Mitochondrial DNA Kit (100)	DNA Polymerase, Buffers, and Reagents for 100 x 50 µl whole mitochondrial genome amplification reactions	151025

For further information: www.qiagen.com/PG/WGA

REPLI-g Service

Service providing highly uniform whole genome amplification and quality assessment from small or precious samples

- Reproducible amplification from a variety of starting materials — including genomic DNA, fresh or dried blood, buccal swabs, fresh or frozen tissue, and cells
- Scalable service — 100 µg and 500 µg standard scales
- Extensive quality assessment including detailed report — enabling reliable prediction for the success of your downstream application
- Highly experienced team — providing the service you need
- No expensive lab equipment required — DNA amplification and subsequent quality assessment is included in the service

Service description

Using Multiple Displacement Amplification (MDA) technology, the REPLI-g service allows the amplification of unlimited amounts of DNA from limited samples with minimal sequence bias. A stringent quality control assay provides information on the quality of the amplified DNA, enabling reliable predictions for the success of your downstream assay to be made. For more information, or to find out how to take advantage of this service, visit www.qiagen.com/PG/REPLIgService .

Applications

REPLI-g amplified genomic DNA can be used in a variety of downstream applications, including:

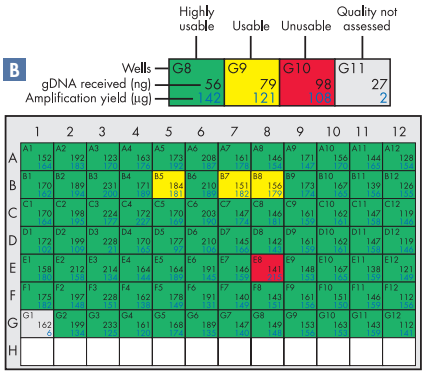
- SNP and STR genotyping analysis
- RFLP and Southern blot analysis
- Comparative genome hybridization

REPLI-g amplified DNA can be used on all genotyping platforms.

Detailed Quality Assessment Report

A

Result	Legend (No) (%)	Quality of starting material	Predicted genotyping performance
Highly Usable	79 94.0	Good to average quality DNA	Accuracy >99.9% Call rate >99%
Usable	3 3.6	Degraded DNA	Accuracy >99% Call rate >95%
Unusable	1 1.2	No gDNA or highly degraded DNA	Genotyping not recommended as several loci or alleles may be missing in the amplified DNA
Synthesis failed	1 1.2	Total synthesis failure due to inhibitor in sample	No amplification yield



A detailed quality assessment report providing **A** an overview of sample DNA quality with predicted success of downstream applications and **B** a breakdown of the quality of each amplified sample, including the amount of gDNA received and the amplification yield. Row H is used for in-house quality assessment using control DNA.

Product	Contents	Cat. no.
REPLI-g Service, Single Tube (100 µg)	Whole Genome Amplification service from single tubes, 100 µg scale	805923
REPLI-g Service, Single Tube (500 µg)	Whole Genome Amplification service from single tubes, 500 µg scale	805925
REPLI-g Service (100 µg)	Whole Genome Amplification service from microplates, 100 µg scale	805943
REPLI-g Service (500 µg)	Whole Genome Amplification service from microplates, 500 µg scale	805945

For further information: www.qiagen.com/PG/WGA

New EpiTect Bisulfite Kit

For complete bisulfite conversion and cleanup of DNA for methylation analysis

- Fast and reliable results — streamlined 6-hour procedure
- Complete DNA conversion — conversion of ≥99% unmethylated cytosines
- Unique DNA protection — innovative buffer limits DNA degradation enabling long-term storage of converted DNA
- Highly sensitive reaction — using 1 ng – 2 µg template DNA
- Optimized protocols — for the conversion of DNA from FFPE tissue samples

Product description

The EpiTect Bisulfite Kit enables complete conversion of unmethylated cytosines to uracils in less than 6 hours. The highly sensitive method utilizes an innovative protection against DNA degradation, and a spin-column–based purification and desulfonation procedure to guarantee fast and reliable results.

Applications

The EpiTect Bisulfite Kit ready-to-use DNA suitable for all downstream applications, including:

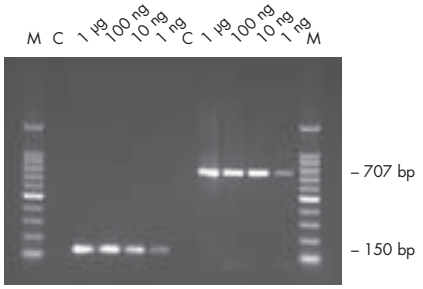
- Methylation-specific PCR
- Multiplex PCR
- Real-time PCR
- Sequencing/Pyrosequencing®

The EpiTect Bisufite Kit is intended for research use. No claim or representation is intended to provide information for the diagnosis, prevention, or treatment of a disease.

DNA Protect Buffer

The unique DNA Protect Buffer prevents DNA fragmentation during bisulfite treatment of DNA. The innovative formulation protects the DNA from the harsh conditions required for conversion (i.e., low pH, high temperature, and high bisulfite salt concentrations) and facilitates the formation of single-stranded DNA, enabling complete bisulfite conversion.

Amplification of large PCR Products from Minimal Amounts of Template DNA



Human genomic DNA was purified from blood using the QIAamp DNA Blood Mini Kit, and various amounts (1 ng – 1 µg) were converted using the EpiTect Bisulfite Kit. PCR was performed using the HotStarTaq Master Mix Kit and 2 sets of primers designed to amplify converted DNA. 5 µl of each PCR was loaded onto a 1.3% agarose gel. As little as 1 ng DNA is sufficient for conversion using the EpiTect Bisulfite Kit. **C**: untreated genomic DNA (negative control). **M**: marker.

Product	Contents	Cat. no.
EpiTect Bisulfite Kit (48)	48 EpiTect Bisulfite Spin Columns, Reaction Mix, DNA Protect Buffer, Carrier RNA, Buffers	59104

For further information: www.qiagen.com/PG/epigenetics