

2022



MOLECULAR BIOLOGY CATALOGUE

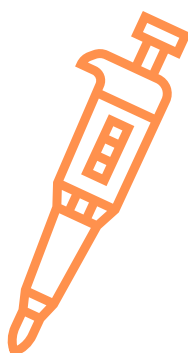
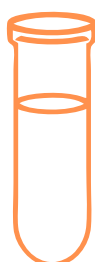
NUCLEIC ACID
PURIFICATION

SAMPLE COLLECTION &
STABILIZATION

PURIFICATION & QUANTIFICATION
OF CIRCULATION DNA / RNA

SEQUENCING PRODUCTS

ELECTROPHORESIS
REAGENTS



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GENOMIC DNA Blood

REAL BLOOD DNA kit

REAL Blood DNA kit is designed for the rapid large-scale preparation of **highly pure genomic DNA from up to 10 ml whole blood**.

The kit can be used for DNA extraction from fresh or frozen blood collected in tubes containing citrate, heparine or EDTA. For a high yield, tubes containing EDTA are recommended.

This kit is based on a simple and fast lysis and protein elimination process without using toxic reagents, organic solvents or enzymatic treatments.

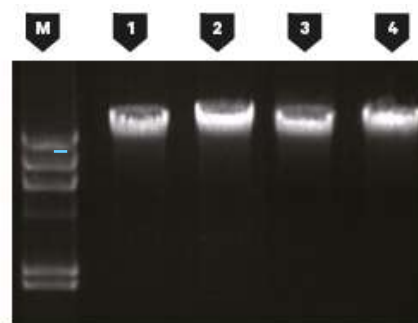
Features

- Reproducible, fast and nonexpensive method.
- This method can be scaled allowing to process large amounts of samples simultaneously.
- Safe method, as it removes completely the need of using toxic reagents.
- Typical yield of 35 •g/ml of blood with an A260/280 of 1.7-1.9.
- It is completed in 45-60 minutes.

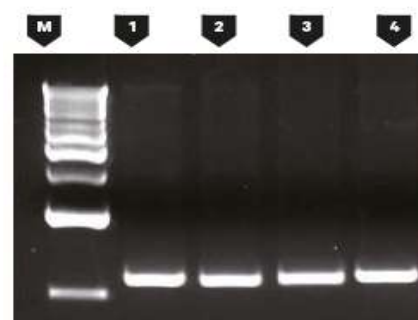
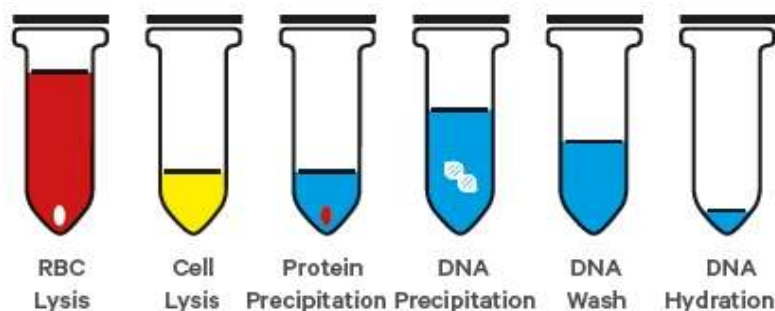
Applications

DNA purified using this kit is highly stable and suited for use in a wide range of applications such as:

- DNA archiving
- PCR and QPCR
- SNP analysis
- Southern Blotting
- Sequencing



Genomic DNA analysis in agarose gel. Purified from whole blood using the REAL BLOOD DNA kit



PCR amplification was performed on DNA isolated from blood. 600 bp amplicon was obtained

REAL BLOOD DNA Kit
Ref. RBME05 for 100 ml of blood.

REAL BLOOD DNA Kit
Ref. RBME06 for 200 ml of blood.

GENOMIC DNA Blood

REALPURE SPIN BLOOD kit

This kit is designed for the rapid purification of highly pure genomic DNA from whole blood, serum, plasma, body fluids and dried blood spots using MicroSpin columns with silica membrane which selectively binds the DNA.

This kit uses a new formulated lysis / binding buffer specific for DNA isolation of blood samples.

Features

- For rapid purification of high-quality, ready-to-use DNA from blood.
- Sample size: 300 µl whole blood, serum, plasma, body fluids and dried blood spots.
- No organic extraction or alcohol precipitation.
- Complete removal of contaminants and inhibitors for reliable downstream applications.
- Typical yield: 6- 9 µg genomic DNA.
- Elution volume: 50-200 µl.
- High quality DNA obtained that can be directly used in PCR, Southern, any enzymatic reaction, cloning, etc.

Applications

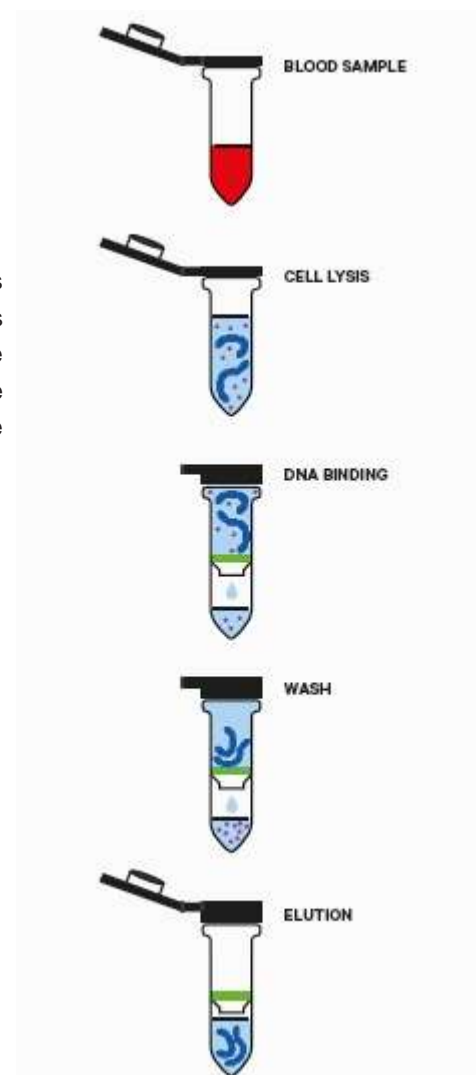
- Genomic, bacterial , viral DNA isolation.
- DNA from whole blood (human or animal blood, fresh or frozen).
- DNA from whole blood treated with citrate, EDTA, heparin.
- DNA from serum, plasma, buffy coat, platelets, body fluids, and dried blood spots.

Procedure

Lysis is achieved by incubation of whole blood in a solution containing large amounts of chaotropic ions in the presence of proteinase K at 70°C. Appropriate conditions for binding DNA to the silica membrane are created by addition of ethanol to the lysate. Contaminants are removed by washing with two different buffers. Pure genomic DNA is finally eluted under low ionic strength conditions in a slightly alkaline elution buffer.

REALPURE SPIN BLOOD Kit
Ref.RBMEGS08 For 50 extractions

REALPURE SPIN BLOOD Kit
Ref.RBMEGS09 For 250 extractions



GENOMIC DNA TISSUES AND CELLS

REALPURE Genomic DNA kit

Different kits designed for an efficient and fast purification of highly pure genomic DNA from a wide variety of samples:

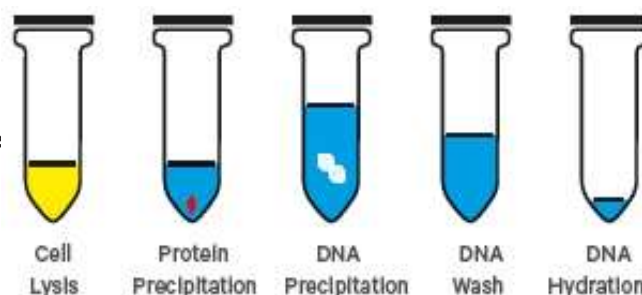
- **REALPURE Genomic DNA Cell Kit:** For purification of archive-quality DNA from cell cultures and cell suspensions.
- **REALPURE Genomic DNA Tissue Kit:** For purification of archive-quality DNA from tissues.
- **REALPURE Genomic DNA Mouse Tail Kit:** For purification of archive-quality DNA from mouse tails.
- **REALPURE Genomic DNA Bacteria Kit:** For purification of archive-quality DNA Gram-positive or Gram-negative bacteria.
- **REALPURE Genomic DNA Yeast Kit:** For purification of archive-quality DNA from yeast.

For another different samples you can contact with our Technical Service for establish one working protocol

The process includes a cell lysis with an anionic detergent that solubilizes the necessary cell components, the contaminant RNA can be removed with a RNase treatment. The cell proteins are removed by precipitation, which allows to leave the genomic DNA in solution. Finally, the genomic DNA is isolated by a precipitation with isopropanol.

Features

- Reproducible, fast and nonexpensive method.
- Convenient and scalable purification procedure.
- Safe method, as it removes completely the need of using toxic reagent.
- Allows to process different biological samples.
- A high quality DNA is obtained, with an A260/280 of 1.7 - 1.9 ratio.



Applications

DNA purified using this kit is highly stable and suited for use in a wide range of applications:

- DNA archiving
- PCR and quantitative real-time PCR
- SNP analysis
- Southern Blotting
- Next Generation Sequencing

REALPURE Genomic DNA Tissue kit Ref. RBME07
For 50 preps. of 20mg

REALPURE Genomic DNA Tissue kit Ref. RBME08
For 200 preps. of 20mg

REALPURE Genomic DNA Tissue kit Ref. RBME09
For 1650 preps. of 20mg

REALPURE Genomic DNA Cell kit Ref. RBME10
For 50 preps. of 3-5 x10⁶ cells

REALPURE Genomic DNA Cell kit Ref. RBME11
For 200 preps. of 3-5 x10⁶ cells

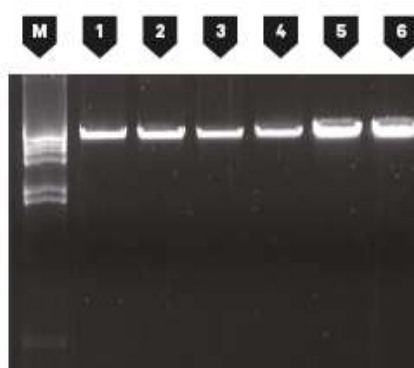
REALPURE Genomic DNA Cell kit Ref. RBME12
For 1650 preps. of 3-5 x10⁶ cells

REALPURE Genomic DNA Mouse Tail kit Ref. RBME13
For 200 preps. of 0.5-1.0 cm

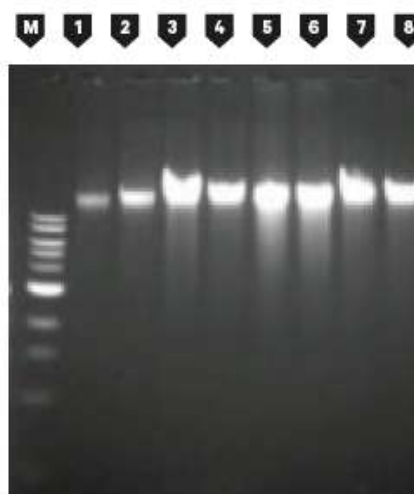
REALPURE Genomic DNA Mouse Tail kit Ref. RBME14
For 1650 preps. of 0.5-1.0 cm

REALPURE Genomic DNA Bacteria kit Ref. RBME15
Volume culture processed 200 ml.

REALPURE Genomic DNA Yeast kit Ref. RBME16
Volume culture processed 200 ml.



Genomic DNA analysis in agarose gel. Prepared with REAL Genomic DNA Kits:
1. Mouse Brain.
2. Mouse Intestine.
3. Mouse Liver.
4. Mouse Kidney.
5. Mouse Heart.
6. Mouse Lung.



Genomic DNA analysis in agarose gel. From different samples.
1. Human hair.
2. Urine.
3. Mouse Tail.
4. Drosophila melanogaster.
5. Semen.
6. Blood stain.
7. E.coli.
8. Sacharomyces cerevisiae

GENOMIC DNA TISSUES AND CELLS

REALPURE spin Genomic DNA kit

This kit is designed for the rapid purification of highly pure genomic DNA from a wide variety of samples, including blood, cultured cells, animal tissue, mouse tail, yeast, clinical samples (serum, plasma, urine) forensic samples or paraffin-embedded tissues using **MicroSpin columns with glass fiber which selectively binds to DNA**.

The process includes a cell lysis by incubation of the sample in a solution containing SDS and proteinase K at 55°C. Appropriate conditions for DNA binding to the glass fibre membrane are created by addition of large amounts of chaotropic ions to the lysate. Contaminants are removed by efficient washing with wash buffer. Pure genomic DNA is finally eluted with an elution buffer and it's ready to use for subsequent reactions.

Features

- MicroSpin columns with glass fiber membrane technology.
- Yield: up to 35 µg genomic DNA.
- Sample size: 200-300 µl whole blood, 200 µl buffy coat; 25-50 mg tissue; 10^4 - 10^7 cells; 0,2-0,5 cm mouse tail (25-50 mg); 10^8 yeast; 10^9 bacteria (Gram + or Gram -); sections of paraffin-embedded tissues. For the rest of samples or special applications contact our technical service.
- High quality DNA obtained that can be directly used in PCR, Southern, any enzymatic reaction, cloning, etc.

Sample	Quantity	DNA mg
Human Whole Blood	200 µl	3-6
Lymphocytes	5×10^6	15-25
HeLaCells	2×10^6	15-25
Liver	25mg	15-30
Brain	25mg	15-30
Lung	25mg	5-10
Heart	25mg	5-10
Kidney	25mg	10-25
Spleen	10mg	5-25
Mouse Tail	0.5-1.0cm	5-25
Rat Tail	0.6cm	20-35
Bacteria	10^9	3-5
Yeast	10^8	10-15

REALPURE SPIN Genomic DNA
Ref.RBMEGS01
For 50 extractions from the samples indicated in the features.

REALPURE SPIN Genomic DNA
Ref.RBMEGS02
For 250 extractions from the samples indicated in the features

REALPURE SPIN Genomic DNA
Ref.RBMEGS15
For 1.000 extractions from the samples indicated in the features



GENOMIC DNA TISSUES AND CELLS

REALPURE Microspin Genomic DNA kit

This kit is designed for the efficient isolation of **genomic and mitochondrial DNA** from small samples, such as different kind of cells and tissues, laser-microdissected samples, small amounts of blood using special column design.

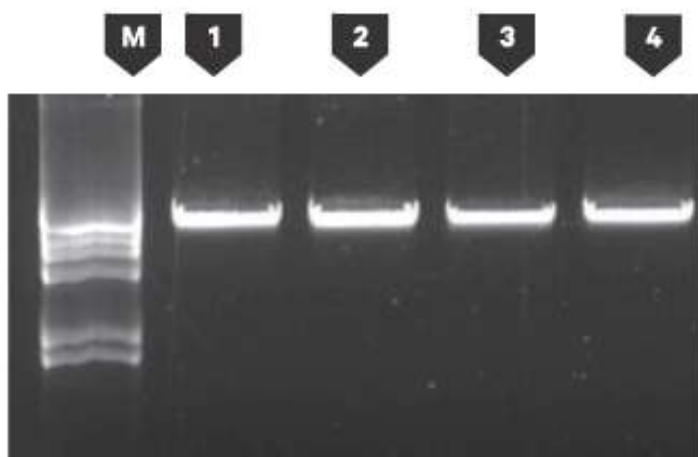
For different samples you can contact our Technical Service for a working protocol.

Features

- Silica membrane technology with special MicroSpin columns.
- Rapid purification of high-quality DNA from small sample quantities.
- No organic extraction or alcohol precipitation.
- Complete removal of contaminants and inhibitors for reliable downstream applications.

Applications

- DNA isolation from tissue (e.g. mouse or human tissue, laser microdissection).
- DNA isolation from cells (e.g. cultured cells).
- DNA isolation from clinical samples (e.g. blood samples, biopsy samples).
- DNA isolation from forensic samples (e.g. dried blood spots, buccal swabs).



DNA isolation from 4 samples of 50 µl of fresh blood using the REAL MICROSPIN DNA Kit.

REALPURE MICROSPIN GENOMIC DNA kit
Ref.RBMEGS10 For 50 preps.

REALPURE MICROSPIN GENOMIC DNA kit
Ref.RBMEGS11 For 250 preps.

GENOMIC DNA SALIVA

REAL Saliva DNA kit/ REAL SWABS DNA kit

We present different kits for an efficient and fast purification of highly pure genomic DNA from a wide variety of **saliva samples**.

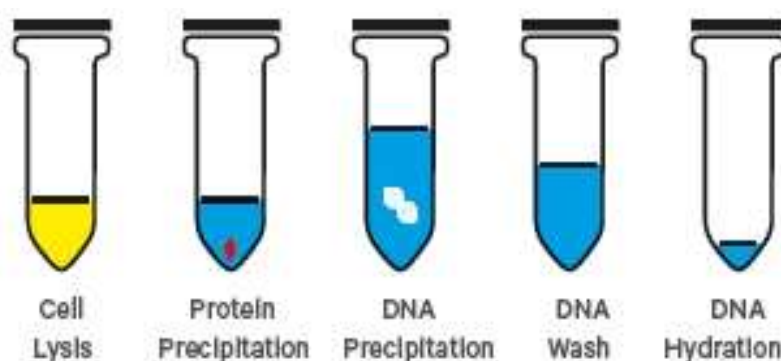
REAL SALIVA DNA kit:

- 1.- Saliva samples
- 2.- Preserved saliva samples with our **REAL SALIVA Sample Collection kit**.
- 3.- Preserved saliva samples with the ORAGENE self collection kits (DNA Genotek).

REAL SWABS DNA kit:

- 1.- REAL's buccal swabs
- 2.- Preserved buccal swabs with our **REAL SWABS Sample Collection kit**.

The process includes a cell lysis with an anionic detergent that solubilizes the necessary cell components, proteinase K and RNase. The cell proteins are removed by precipitation, which allows to leave the genomic DNA in solution. Finally, the genomic DNA is isolated by a precipitation with isopropanol.



Features

- » DNA from saliva is equivalent to DNA from blood DNA from saliva is equivalent to DNA from blood for downstream applications.
- » Improve patient care and compliance with painless, non-invasive sample collection and decreases costs.
- » Reproducible, fast and non-expensive method.
- » Safe method, as it removes completely the need of using toxic reagents.

Applications

DNA purified using REALPURESALIVA KIT is highly stable and suited for use in a wide range of applications such as:

- » DNA archiving.
- » PCR and quantitative real-time PCR.
- » SNP analysis.
- » Southern Blotting.
- » Next Generation Sequencing.
- » DNA isolation from clinical samples (e.g. blood samples, biopsy samples).

REAL SALIVA DNA kit
Ref.RBMEG06 50 preps.

REALSALIVA DNA kit
Ref.RBMEG07 250 preps.

REAL Swabs DNA kit
Ref.RBMEG20 100 preps.

REAL Swabs DNA kit
Ref.RBMEG21 500 preps.

REAL Swabs DNA kit
Ref.RBMEG22 1000 preps.

GENOMIC DNA PLANT

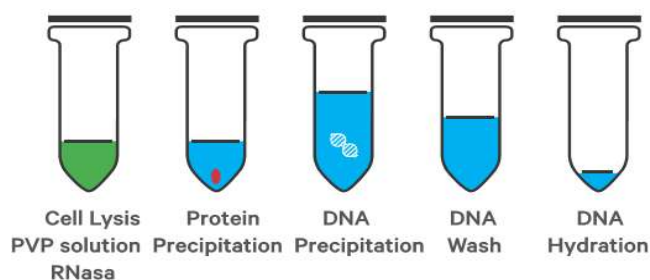
REAL Plant DNA kit

This kit provides a method for an efficient and fast **genomic DNA extraction from plant cells and tissues or fungi**.

It is known that plants contain quantities of different substances (polyssaccharides, polyphenols, etc) and that plants with the same or related genus can present enormous variabilities in their biochemical composition, for such reason, it becomes difficult to standardise on a single DNA extraction method for all plants.

To solve this problem and to be able to cover the biggest number of plants, REAL uses a **PVP solution** that can bind the polyssaccharides and polyphenols that are released by the cell lysis and has the capability to form complexes with the nucleic acids to degrade them or to precipitate with them.

The process includes a sample homogenization in an extraction Buffer and the PVP solution. The lysis is completed with an incubation in a Lysis Buffer and RNase at 37°C for 30 minutes. Cell proteins and cell debris are removed by a protein removing Buffer that allows to leave the genomic DNA in solution. Finally, the genomic DNA is isolated by a precipitation with isopropanol.



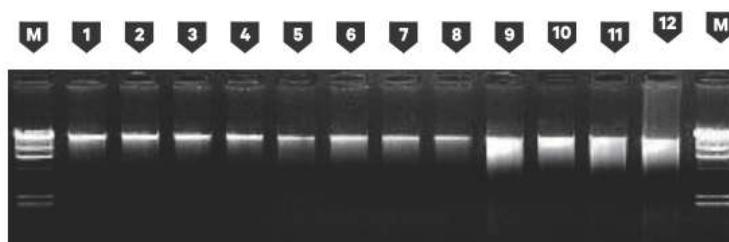
Features

- Simple, fast and non-expensive method.
- This method can be scaled, allowing to process a wide range of samples.
- Safe method, as it removes the need to use toxic reagents.
- It contains a PVP solution that allows working with plants with a high content in polysaccharides or phenolic compounds.
- It is completed in 45-60 minutes.
- Obtained DNA can be used for PCR, Southern blot, RFLP, sequencing or cloning.

Applications

DNA purified using this kit is highly stable and suited for use in a wide range of applications such as:

- DNA archiving.
- PCR and quantitative real-time PCR
- SNP analysis
- Southern Blotting
- Next generation sequencing



Genomic DNA from different plants. Genomic DNA was isolated using REAL PLANT DNA Kit from 20-40 mg of the following leaves or trees:

- | | |
|-----------------|-----------------|
| 1. Corn. | 7. Corn. |
| 2. Orange tree. | 8. Orange tree. |
| 3. Olive tree. | 9. Olive tree. |
| 4. Tomato. | 10. Tomato. |
| 5. Lemon. | 11. Lemon. |
| 6. Eucaliptus. | 12. Eucaliptus. |

REALPURE PLANTS DNA kit
Ref.RBMEG04
For 50 extractions from 20-40 mg of plants

REALPURE PLANTS DNA kit
Ref.RBMEG05
For 200 extractions from 20-40 mg of plants

GENOMIC DNA PLANT

REAL SPIN Plant DNA kit

This kit provides a method for an efficient and fast genomic DNA extraction from tissues of plants and fungi using MiniSpin columns. The kit includes two optimized, alternative lysis buffers based on the established CTAB and SDS lysis methods. As plants are very heterogeneous and contain a lot of different metabolites like polyphenols, polysaccharides, or acidic components, REAL SPIN PLANT Kit offers two different lysis procedures for optimal processing of various samples.

In addition we also use a PVP solution that can bind the polysaccharides and polyphenols.

Plant samples are first disrupted/homogenized and then lysed in a highly optimized buffer system, containing chaotropic salt, denaturing agent and detergents. A choice of two lysis buffers based on the established CTAB or SDS method are provided. Crude lysate are cleared by centrifugation and the cleared lysate is then mixed with the Binding Buffer and processed through a MiniSpin column containing a silica membrane to which the plant genomic DNA binds.

Contaminants and impurities such as salts, metabolites and cellular components are removed by simple washing steps with two different buffers. High-quality purified plant genomic DNA is then eluted in a low Elution Buffer. The DNA is ready-to-use for a wide variety of applications.

Features

- Silica Membrane Technology using MiniSpin columns.
- Choice of two optimized lysis buffers and PVP solution.
- High-purity DNA: typical A260/A280 ratio 1.6 - 1.9.
- Plant genomic DNA isolated in 30 minutes.

Applications

- Isolation of genomic DNA from: fresh / frozen / lyophilized plant tissue and fungi.
- Isolated DNA is ready for downstream applications such as PCR, real-time PCR,
- Genotyping and Next generation sequencing.

REALSPIN PLANTS DNA kit
Ref. RBMEGS13 For 50 extractions

REALPURE PLANTS DNA kit
Ref. RBMEGS14 For 250 extractions



GENOMIC DNA FOOD-STOOL

REAL Spin Food-Stool kit

This kit has been optimized for an efficient and fast purification of total DNA from:

- 1.- Fresh feces or preserved with our REAL Stool Sample Collection kit
- 2.- Various food samples (raw material and processed food)

After the samples have been homogenized, the DNA can be extracted with the extraction buffer, lysis mixtures should be cleared by centrifugation or filtration in order to remove contaminants and residual cellular debris. The clear supernatant is then mixed with the binding buffer, proteinase K and isopropanol to create conditions for optimal binding to the silica membrane column. After washing with two different buffers for efficient removal of potential PCR inhibitors, DNA can be eluted in low salt buffer or water, and is ready-to-use in subsequent reactions.

Features

- Silica membrane technology.
- Rapid purification of high-quality, ready to use DNA.
- Even low amounts of partially degraded DNA can be purified from complex matrices.
- Complete removal of contaminants and inhibitors for reliable downstream applications.
- Sample size: up to 200mg.

Applications

- DNA extracted from fecal specimens is an important tool in different areas of molecular genetics research reaching from cancer diagnostics to population genetic studies.
- DNA from complex matrices, processed food, soya, chocolate, cereals, meat, animal feed.
- Detection of genetically modified material in food products.
- Detection of specific DNA in animal feed.



DNA extracted from human stool. DNA was purified from 6 human stool samples (100 mg) using the REAL SPIN FOOD-STOOL

REALPURE SPIN Food-Stool Kit
Ref.RBMEGS05 Allows isolation of 50 samples

REALPURE SPIN Food-Stool Kit
Ref.RBMEGS06 Allows isolation of 250 samples

GENOMIC DNA FOOD-STOOL

REAL Spin Food-Stool kit "Bacteria" Kit

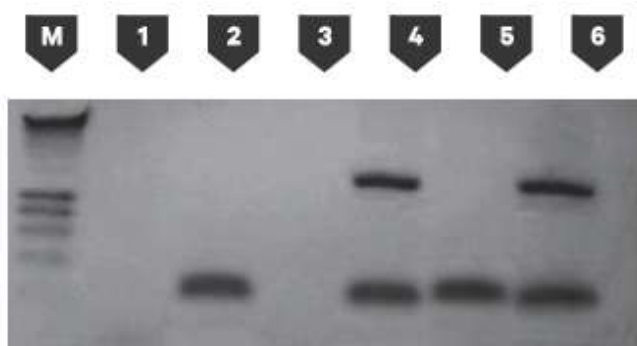
This kit has been optimized for an efficient and fast PCR-ready bacterial DNA extraction (*Listeria*, *Salmonella*, *E.coli*, etc) from pre-enrichment or enrichment culture from different food samples, raw materials or feces using glass fiber membrane MicroSpin columns which selectively binds the DNA.

Detection of very low levels of bacterial contamination in foods and feces needs these samples to be cultured for a few hours in an appropriate enrichment broth. The use of culture enrichment prior to PCR analysis has many purposes, including:

- 1) dilution of PCR-inhibitory substances present in the sample matrix.
- 2) multiplication of the target organism to provide detectable concentrations.
- 3) dilution of dead cells.
- 4) possibility of isolating the target organism for complementary tests.

Features

- MicroSpin columns with glass fiber membranes
- Complete removal of PCR inhibitors.
- PCR and Real Time PCR-ready DNA.
- Sample size: from 1 ml of pre-enrichment or enrichment medium of different food samples



PCR detection of *Salmonella* ssp.

Salmonella ssp. amplification experiments were done using the DNA obtained in the previous extraction. 2 different PCR Mix were used, one of them amplifies a 285 bp fragment from the *invA* gene from *Salmonella* (lanes 2 and 5); the other MIX amplifies the gene *invA* and as internal control the bacterial 16S rRNA gene from the bacteria, resulting a 1300 bp fragment (lanes 4 and 6).

Lane 1: negative control MIX1.

Lane 3: negative control MIX2.

REALPURE SPIN Food-Stool Bacteria

Ref. RBMEGS03

Bacterial DNA extraction from 50 samples of 1.5 ml medium culture. Includes Proteinase K and Lysozyme

REALPURE SPIN Food-Stool Bacteria

Ref. RBMEGS04

Bacterial DNA extraction from 250 samples of 1.5 ml medium culture. Includes Proteinase K and Lysozyme

GENOMIC DNA FFPE

REAL FFPE DNA Kit

This kit is optimized for a fast method to isolate DNA from formalin-fixed, paraffin-embedded (FFPE) tissue specimen.

The procedure omits the use of flammable and malodorous xylene or d-limonene commonly used for deparaffinization. Proprietary buffer formulation DEPARAFFINIZATION SOLUTION is used for the complete dissolution of the wax to release the tissue.

Procedure

1. Remove paraffin: paraffin is dissolved and removed in the DEPARAFFINIZATION SOLUTION.
2. Lyse: sample is lysed under denaturing conditions with proteinase K.
3. Heat: incubation at 90°C reverses formalin crosslinking.
4. Bind: DNA binds to the membrane and contaminants flow through.
5. Wash: residual contaminants are washed away.
6. Elute: concentrated DNA is elute from the membrane.

Features

- Silica membrane technology with special MicroSpin columns.
- Low elution volume: 20-30 µl.
- The quality of DNA is suitable for the following applications as quantitative PCR or Next generation sequencing (NGS).
- Very easy paraffin removal
- Safe method avoids xylene and other toxic.
- Complete removal of contaminants and inhibitors for reliable downstream
- Rapid isolation of DNA from formaline-fixed, paraffin-embedded samples.
- Isolation of DNA from fresh and archived FFPE samples.
- Isolation of DNA from specimen of object slides
- Typical downstream application: PCR, pPCR, NGS, STR analysis.



PCR Multiplex from 8 FFPE samples using REAL FFPE DNA Kit for the DNA isolation.

REALPURE FFPE DNA Kit
Ref. RBMEGS12 For 50 preps.

PLASMID DNA MINIPREP

REAL Plasmid Spin Miniprep Kit

This kit is designed for the rapid, small scale preparation of high purity plasmid DNA.

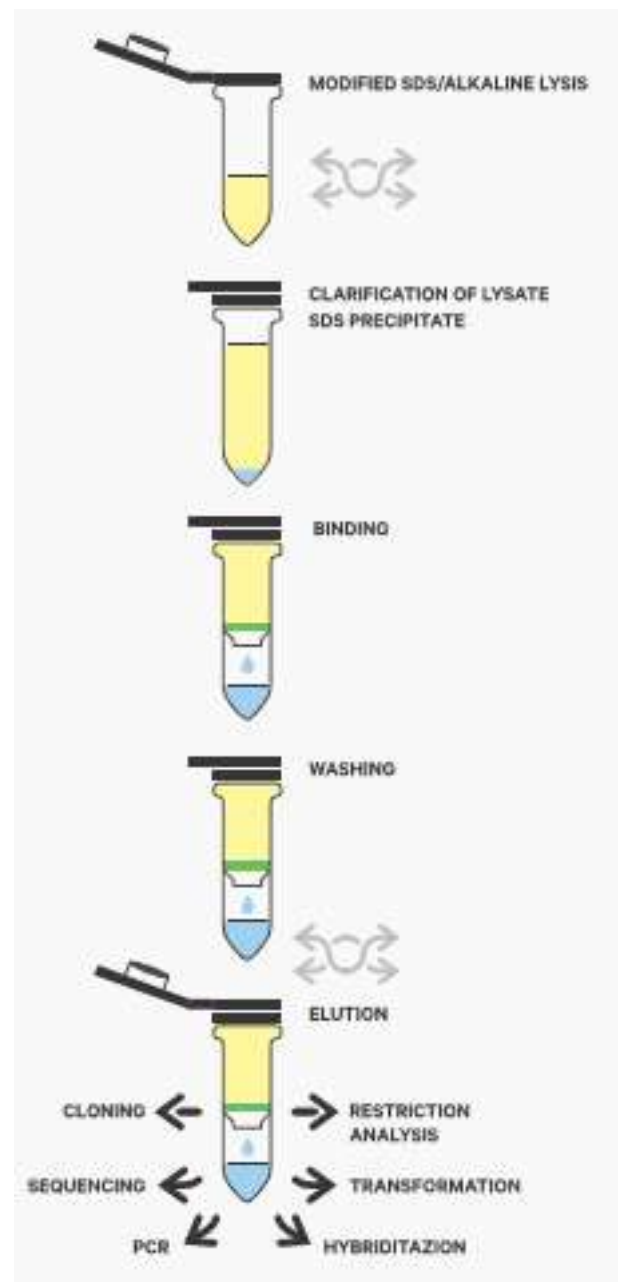
It introduces TrueBLUE Lysis control reagent, a color indicator which provides visual identification of optimum buffer mixing. This prevents common handling errors that lead to inefficient cell lysis and incomplete precipitation of SDS, genomic DNA and cell debris. This makes it ideal for use by researchers who have not much experience with plasmid preparation as well as experienced scientists who want to be assured of maximum product yield.

The extracted DNA can be used in PCR, restriction analysis, subcloning, transforming and:

- 1.- Sequencing REAL PLASMID Miniprep "Sequencing grade" kit
- 2.- Transfection process REAL PLASMID Miniprep "Transfection grade" kit

Features

- Purify plasmid DNA within 15 minutes.
- Convenient: Plasmid silica fiber spin column
- Sample Volume: 1.5-3.0 ml
- Plasmid Size: 1-15 kb.
- High yield: up to 20ug of pure plasmid DNA
- Sample volume: 1,5-3.0 ml of cultures bacterial cells



REALPLASMID MiniPrep "Sequencing grade" kit
Ref. RBMEPS06 250 Minipreps

REALPLASMID MiniPrep "Sequencing grade" kit
Ref. RBMEPS07 1000 Minipreps

REALPLASMID MiniPrep "Transfection grade" kit
Ref. RBMEPS08 100 Minipreps

PLASMID DNA MIDI-MAXI PREP

REAL Plasmid Midi/ Maxiprep kit

REALPLASMID Midi/Maxiprep Kit offers a simple method for isolating plasmid DNA from 25-500 ml of recombinant E.coli cultures.

This kit combines a modified alkaline lysis method with the convenience of anion-exchange columns to isolate high purity transfection grade plasmid DNA from bacterial cell lysates.

During the cell lysis step, both chromosomal and plasmid DNA are denatured. Potassium acetate is added to form a neutralized precipitate containing chromosomal DNA and other cellular components.

Plasmid DNA that remains in the solution, reverts to its native supercoiled structure, and then is loaded onto an equilibrated anion-exchange column. The plasmid DNA binds to the anion-exchange resin and then is eluted from the column with washing steps. Eluted DNA is precipitated and easily dissolved in TE buffer or nuclease-free-water.

The Purified plasmids are suitable for use in the most demanding molecular biology applications, including transfection, in vitro transcription, automated or manual sequencing, cloning, hybridization and PCR.

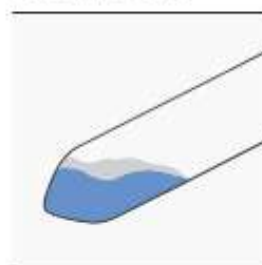
It introduces TrueBLUE Lysis control reagent a color indicator which provides visual identification of optimum buffer mixing. This prevents common handling errors that lead to inefficient cell lysis and incomplete precipitation of SDS, genomic DNA and cell debris. This makes it ideal for use by researchers who have not much experience with plasmid preparation as well as experienced scientists who want to be assured of maximum product yield.

Features

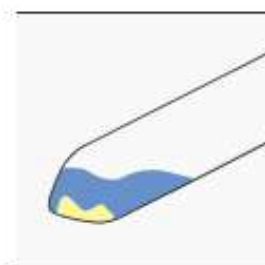
- Spin columns with glass fiber membrane technology which promotes the selective DNA binding.
- The customer chooses the size of the bacteria cultures which he wants to work with in a range from 25-150 ml.
- Plasmid DNA can be recovered from 25-150 ml of Luria Broth (LB) in about 45 minutes.
- Up to 500 µg yield of high-copy plasmid DNA.
- No risk of DNA pellet loss during precipitation.
- Simple method, fast and economical.

Visualization of efficient cell lysis and SDS precipitation using TrueBLUE Lysis control reagent

CELL LYSIS

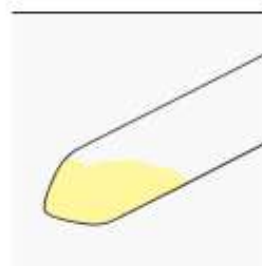


Correct Mixing

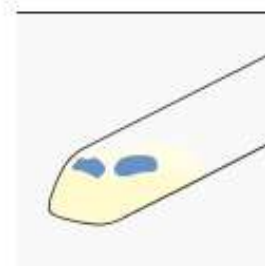


Insufficient Mixing

NEUTRALIZATION



Correct Mixing



Insufficient Mixing

REALPLASMID Midi/ Maxiprep Kit
REF. RBMEPS04
Includes all the necessary reagents for 25 midpreps

HIGH PURITY REALPLASMID Midi/ Maxiprep Kit
REF. RBMEPS05
Includes all the necessary reagents for 10 maxipreps

VIRAL NUCLEIC ACIDS / VIRAL DNA AND VIRAL RNA

REAL Spin Viral DNA/ RNA kit

REAL SPIN Viral DNA/RNA Kit is designed for the rapid simultaneous purification of viral DNA and RNA from cell –free samples such as serum, plasma and cerebrospinal fluid.

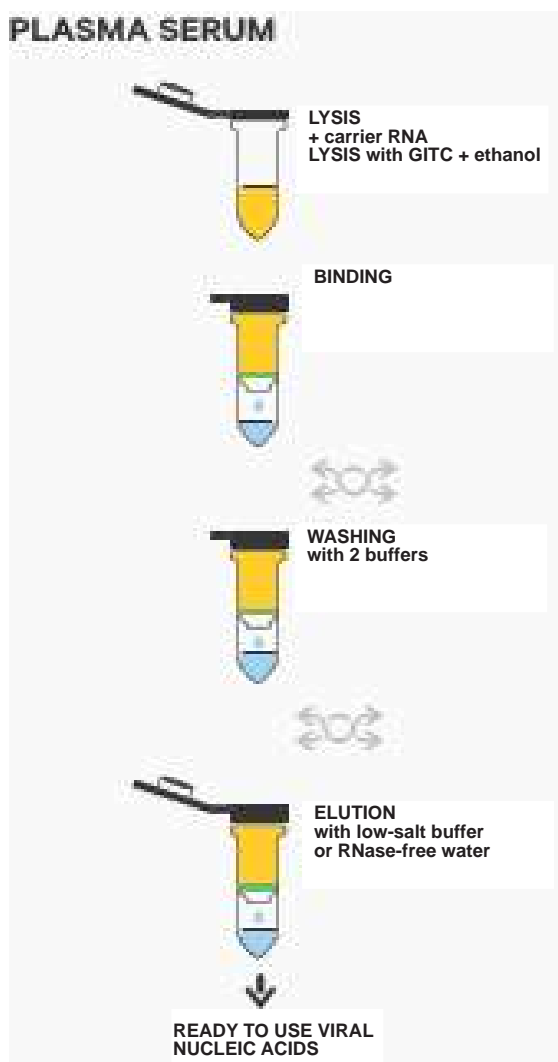
Viruses, when lysed by detergent and Proteinase K, release total viral nucleic acids. Then, in the presence of a chaotropic salt, viral nucleic acids bind selectively to glass fiber membrane in a special centrifuge tube. The nucleic acids remain bound while a series of a rapid wash and spin steps removes contaminating cellular components. Finally, low salt elution removes the viral nucleic acids from the glass fiber membrane. The process does not require nucleic acids precipitation, organic solvent extractions, or extensive handling of the nucleic acids.

REAL Spin Viral DNA/RNA Kit can be used for the isolation of viral RNA and DNA from a broad range of RNA and DNA viruses. However, performance cannot be guaranteed for every virus species and must be validated by the customer.

Features

- Flexible system for purification of viral DNA/RNA free of impurities.
- Fast and easy purification with excellent reproducibility.
- Includes carrier-RNA for highest sensitivity in downstream applications
- The viral DNA/RNA can be used directly as templates for standard PCR or RT-PCR
- Sample material : 200 µl serum, plasma, cell-free biological fluids.

REAL Viral DNA/RNA kit
Ref. RBMEGS07 100 tests



VIRAL NUCLEIC ACIDS / VIRAL RNA

REAL Spin Viral RNA kit

REAL SPIN VIRAL RNA KIT is designed for the rapid purification of viral RNA from cell –free samples such as serum, plasma and cerebrospinal fluid.

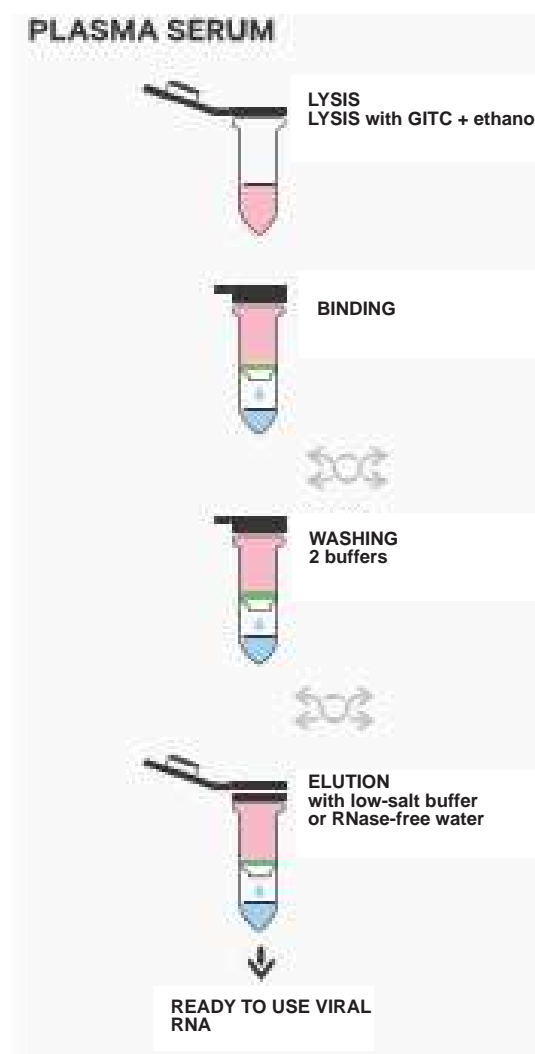
Viruses, when lysed by detergent, release viral RNA. Then, in the presence of a chaotropic salt, viral RNA binds selectively to glass fiber membrane in a special centrifuge tube. The RNA remains bound while a series of a rapid wash and spin steps removes contaminating cellular components.

Finally, low salt elution removes the viral RNA from the glass fiber membrane. The process does not require RNA precipitation, organic solvent extractions, or extensive handling of the RNA.

Features

- Rapid isolation of high- quality, ready-to-use viral RNA.
- The viral RNA can be used RNA. directly as templates for standard PCR or RT-PCR.
- Sample material: 200 µl serum, plasma, cell-free biological fluids.
- Complete removal of serum, plasma, cell-free.
- No organic extraction or alcohol precipitation.
- Complete removal of contaminants and inhibitors.

REAL Spin Viral RNA kit
Ref. RBMER19 100 columns



RNA PURIFICATION TISSUE / CELLS

REAL Tissue/ Cells RNA kit

This kit provides a method for an efficient and fast total RNA from tissues and cells using MiniSpin columns. REAL TISSUE/CELLS RNA Kit integrates a gDNA Removal Column. This Mini spin column removes quickly and efficiently most genomic DNA without the need of DNase digestion.

In the first step cells and tissues are lysed without the need of β -mercapthoethanol. The chaotropic salt included in the lysis buffer immediately inactivates RNases. The lysate is added to the gDNA Removal Column to clarify the lysate and to remove contaminating gDNA. After addition of the binding solution to the flow-through, the RNA is bound to the RNA column. Afterwards, two washing steps remove salts, metabolites, and macromolecular cellular components. High quality RNA is eluted with RNase-free H₂O.

Features

- Fast procedure delivering high quality total RNA in minutes.
- Convenient handling– lysate clearing and gDNA removal with one column in one step.
- Sample Material: < 1 x 10⁷ cultured cells; 25 mg animal/ human tissue.
- No phenol/chloroform extraction, no CsCl, no gradients, no LiCl or ethanol precipitation.

Applications

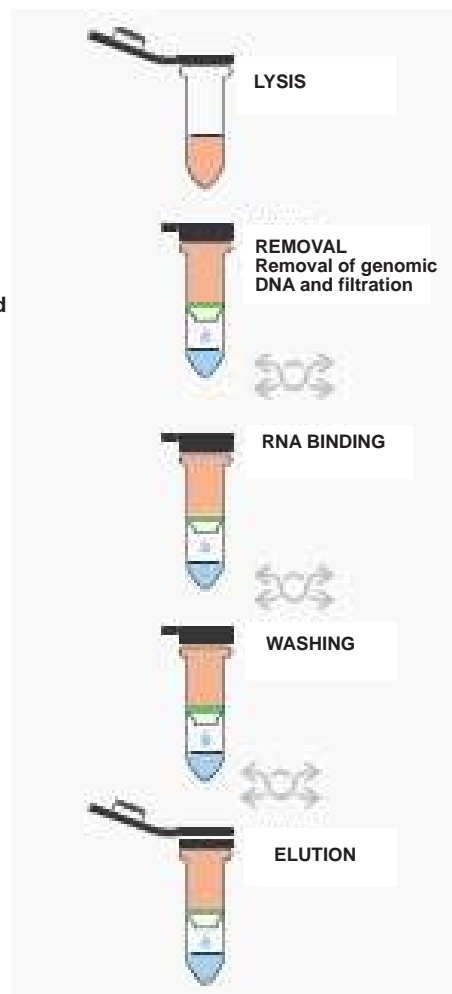
- RNA isolation from cultured cells and animal tissues.
- RNA is ready for downstream applications such as RT-PCR, Northern Blotting,
- Primer Extension, mRNA Selection, cDNA Synthesis, RNase Protection ELUTION Assay.



Total RNA isolated using
REAL TISSUE/CELLS
RNA Kit. Total RNA was isolated
from HeLa Cells

REAL Tissue/ Cells RNA Kit
Ref. RBMER20 100 extractions

REAL Tissue/ Cells RNA Kit
Ref. RBMER21 500 extractions



RNA PURIFICATION PLANT

REAL PLANT RNA kit

This kit allows DNA- free total RNA from different cells and tissues of plants and fungi samples using columns with a silica membrane.

The samples are ground under liquid nitrogen followed by incubation in the lysis solution which immediately inactivates the RNases and creates the correct binding conditions for the RNA absorption on the silica membrane. Together with the lysis solution, a PVP(polyvinylpyrrolidone) solution is added, that acts binding contaminants such as polysaccharides and polyphenols which may interfere or degrade the RNA. The contaminant DNA is removed by the application of a DNase I solution (supplied with the kit) directly on the column.

The salts, metabolites and cell components are removed by 2 washing steps. Finally, the RNA is eluted with nuclease-free water.

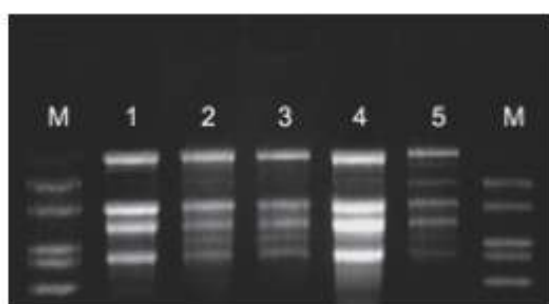
REALTOTAL RNA SPIN Plants and Fungi contains 2 different lysis solutions, one based on guanidine thiocyanate, the most recommended due to its high denaturalizant property, and other based on guanidine HCl as in some plants and fungi the presence of certain metabolites produces a solidification of the lysate, avoiding its processing, in such cases, the lysis solution with guanidine HCl is used.

Features

- High-quality total RNA in 30 minutes.
- Sample Material: up to 100 mg (fresh plant tissue), up to 25 mg (dry plant tissue).
- No phenol/chloroform extraction, no CsCl gradients, no LiCl or ethanol precipitation.
- Two alternative lysis buffers included – optimized lysis procedure.

Applications

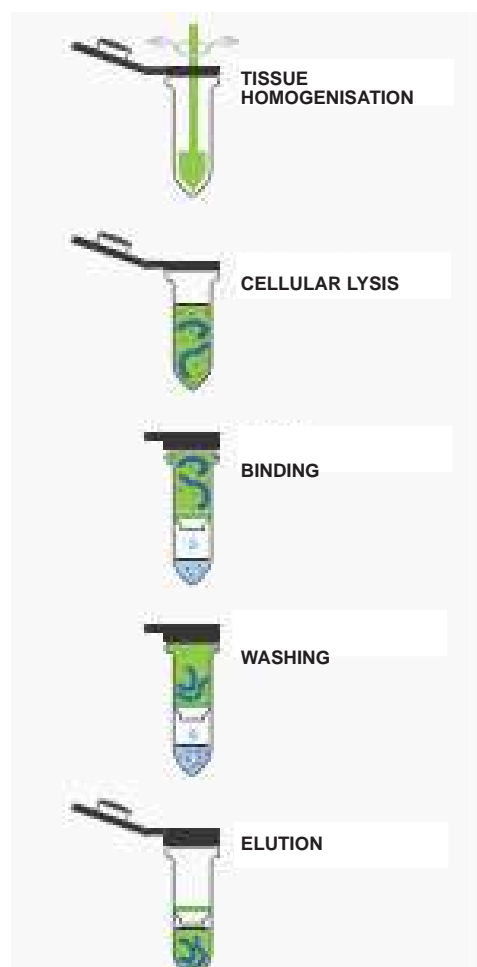
- RNA isolation from cells and tissues.
- RNA from filamentous fungi.
- Typical downstream applications: RT-PCR, gene expression profiling, Northern Blotting, primer extension, array technology, RNase protection assays.



Total RNA from different using the REAL PLANT RNA KIT. Total RNA was isolated from 50 mg of the following species:
1. Corn.
2. Tomato.
3. Vine.
4. Pine tree.
5. Olive tree.
M. Markers.

REAL Plant RNA Kit
Ref. RBMER22 100 columns

REAL Plant RNA Kit
Ref. RBMER23 500 columns



RNA PURIFICATION BLOOD

REAL Blood RNA kit

This kit provides a method for purification of cellular RNA from fresh whole blood. REAL BLOOD RNA Kit simplifies isolation from blood with a fast spin-column procedure.

Red blood cells are selectively lysed and white cells collected by centrifugation. White cells are then lysed using highly denaturing conditions which immediately inactivate RNases. Using a gDNA Removal Column, this Mini spin column removes quickly and efficiently the most genomic DNA without the need of DNase digestion.

After the sample is applied to the RNA Spin column. Total RNA binds to the membrane and contaminants are washed away, leaving pure RNA to be eluted in 30–100 µl RNase-free water (provided with the kit) for direct use in any downstream application.

Features

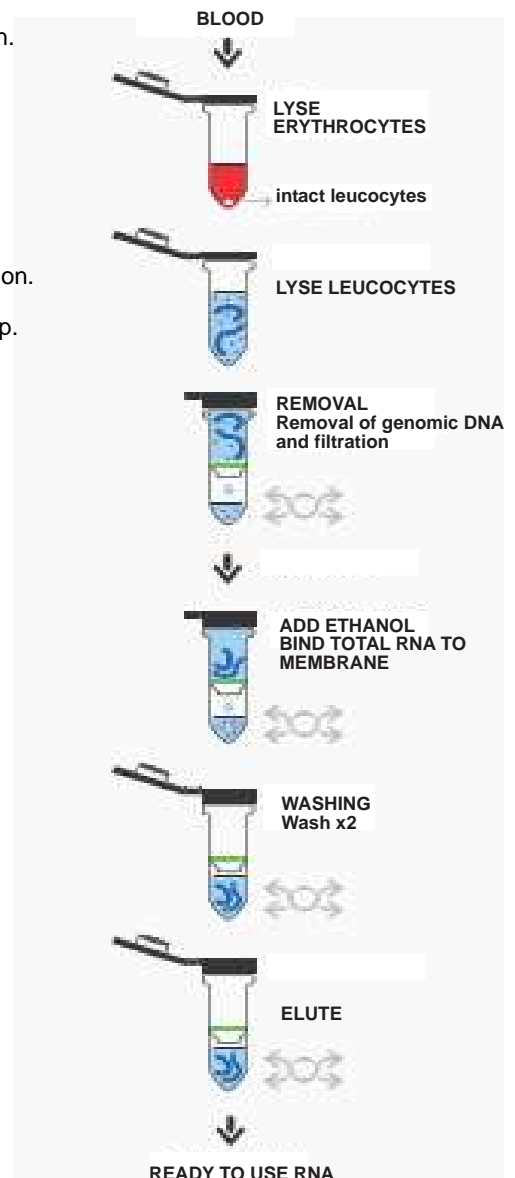
- Rapid purification of high-quality, ready-to-use RNA whole blood samples.
- Silica membrane column technology.
- Convenient handling – lysate gradients and gDNA removal with one column in one step.
- Sample material: 300ul of whole blood; up to 1.5 ml with erythrocyte lysis.
- No phenol/chloroform extraction, no CsCl gradients, no LiCl or ethanol precipitation.

Applications

- Fast procedure delivering high quality total RNA in minutes.
- No phenol/chloroform extraction, no CsCl, no gradients, no LiCl or ethanol precipitation.
- Convenient handling– lysate clearing and gDNA removal with one column in one step.
- Sample Material: < 1 x 10⁷ cultured cells; 25 mg animal/ human tissue.

REAL Blood RNA kit
Ref. RBMER24 100 columns

REAL Blood RNA kit
Ref. RBMER25 500 columns



RNA PURIFICATION SALIVA

REAL SALIVA RNA kit

Saliva, the most accessible and noninvasive biofluid of our body, harbors a wide spectrum of biological analytes informative for clinical diagnostic applications. Recently, human RNA obtained from saliva was shown to be a biomarker for several diseases.

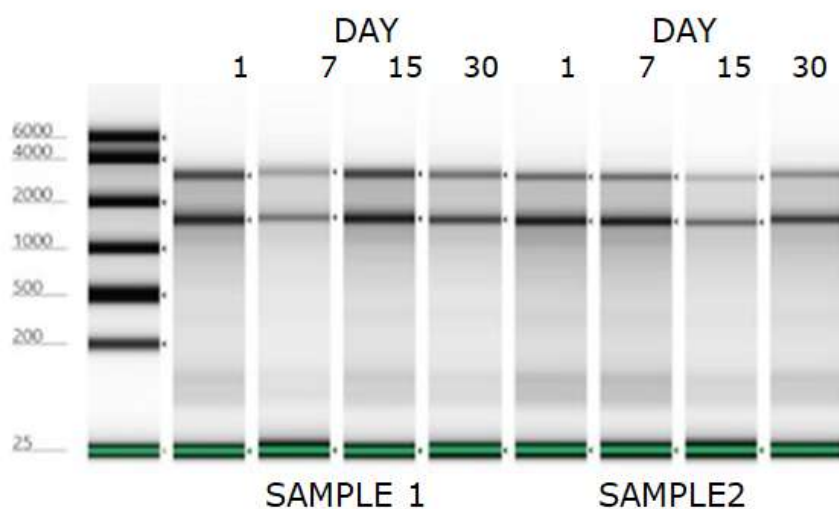
REAL has developed a complete system that uses saliva as the sample source for expression studies.

1. REAL SALIVA RNA Sample Collection Kit provides a safe and rapid all-in-one procedure for the collection, stabilization and transportation of 1 ml saliva samples at ambient temperature that stabilizes RNA from the moment of collection for 1 month. Saliva samples are collected by spitting inside the collection funnel which has been assembled with the collection tube. After collecting 1 ml saliva the content of saliva preservation solution are then added and mixed with the collected saliva. The saliva collection tube is sent to the laboratory for RNA isolation and analysis using the REAL SALIVA RNA Kit.

2. REAL SALIVA RNA Kit has been designed for a fast and efficient purification of total RNA from preserved saliva samples. The process includes a cell lysis with proteinase K followed by a precipitation of the proteins and part of genomic DNA. Later, by a precipitation with isopropanol, total RNA is obtained, which is finally rehydrated. Finally, for removal of genomic DNA contamination is used an approach consisting of two sequential filtrations with different MiroSpin columns. BLOOD RNA Kit simplifies isolation from blood with a fast spin-column procedure.

Features

- Buffer-based RNA isolation combined with gDNA removal with columns
- Sample volume: 600 µl of preserved saliva sample.
- RNA is isolated without the use of harmful chemicals as phenol or chloroform.
- Total RNA:
- A260/A280 Ratio: >1.8
- Elution volume: 50 µl.



REAL Saliva RNA kit
Ref. RBMER35 50 Preps

RNA PURIFICATION BACTERIA

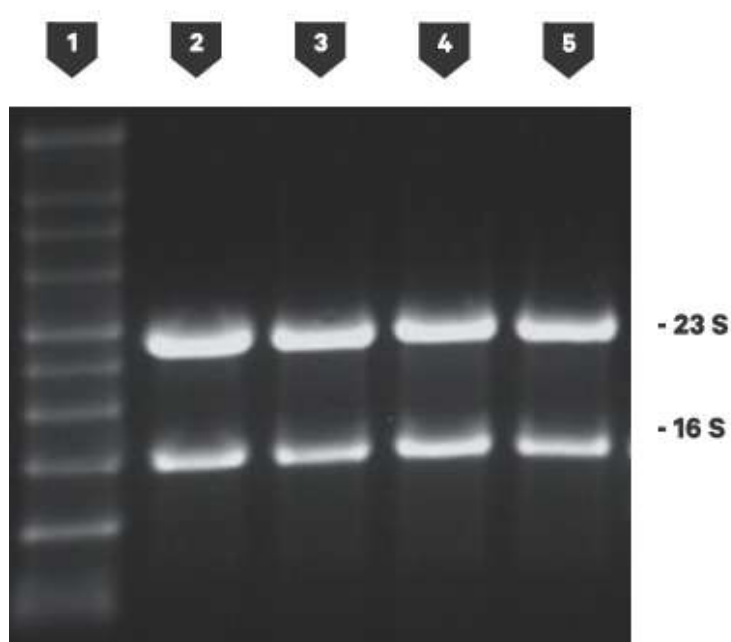
REAL Bacteria RNA kit

This kit was designed for total RNA purification from Gram (-) negative bacteria and Gram (+) positive bacteria without using toxic reagents. This RNA Kit includes Bacteria Lysis Buffer and Lysozyme to reduce sample preparation time and minimize hands on time.

The process includes a cell lysis followed by a precipitation of the proteins and part of genomic DNA. Later, by a precipitation with isopropanol, total RNA is obtained, which is finally totally rehydrated.

Features

- Fast and easy method for an efficient total RNA purification from bacteria.
- It can process 100 bacteria samples of 1 ml.
- Safe method, as NO TOXIC reagents are used.



REAL BACTERIA RNA Kit. Total RNA was isolated from different 1ml cultures of bacterias using the REAL BACTERIA Kit

REAL Bacteria RNA kit
Ref. RBMER26 100 columns

REAL Blood RNA kit
Ref. RBMER27 500 columns

RNA PURIFICATION micro RNA

REAL microRNA kit

REAL microRNA Kit provides a quick and easy spin column system for purifying and enriching micro RNAs (miRNAs) and other small cellular RNAs from a wide variety of tissue and cells. Since miRNAs are vital for regulating gene expression, this kit is optimized for isolation of small RNA molecules while removing larger RNAs and minimizing genomic DNA contamination for improved sensitive downstream applications.

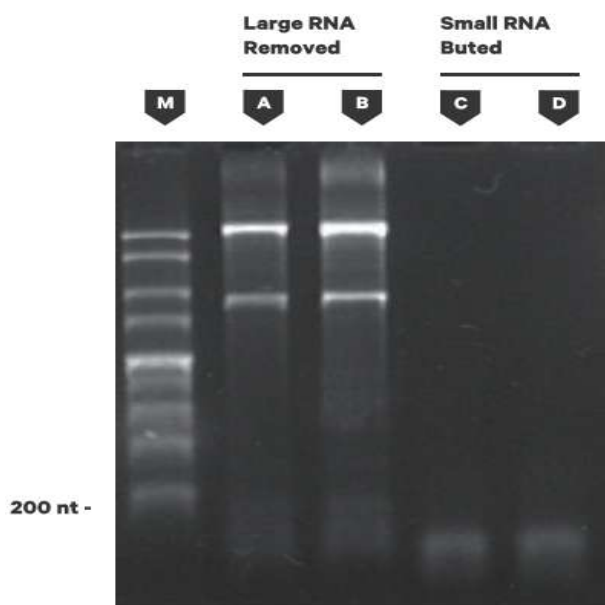
Most commercial RNA purification kits do not recover RNA molecules smaller than < 200 nucleotides, using an approach consisting of two sequential filtrations with different ethanol concentrations, an RNA fraction highly enriched in RNA species (< 200 nucleotides) can be obtained with of REALTOTAL microRNA Kit.

Features

- Efficient isolation of small RNA species using a 2 column process, resulting in minimal contamination of larger RNA and genomic DNA.
- microRNA is isolated without the use of harmful chemicals as phenol or chloroform.
- Rapid protocol 25 minutes.
- Purified microRNA can be used in a number of downstream applications including real time PCR, reverse transcription PCR, Northern blotting, RNase protection and primer extension, and expression array assays.

Applications

- microRNA isolation from cultured cells and tissues
- microRNA is ready for later downstream applications such as RT-PCR, Northern Blotting, microarray analysis, chip hybridization



Efficient fractionation of the large from the small RNA species. REAL microRNA Kit was used to separate HeLa cell small RNA from the large RNA species. Samples were run on a formaldehyde-agarose gel to visualize the larger RNA species that are being removed.

REALTOTAL microRNA Kit

Ref. RBMER28 Allows to isolate small RNA molecules < 200 nucleotides from 50 samples

RNA PURIFICATION DNA REMOVAL

REAL DNA Removal kit

REAL DNA Removal Kit provides a method for removal of genomic DNA contamination in RNA preparations using an approach consisting of two sequential filtrations with different MiroSpin columns.

DNA, contaminating RNA preparations, can serve as a template in PCR to produce a false positive signal from RT-PCR. Although false positives are easily identified by looking at the outcome of a “minus-RT” control.

Features

- Efficient removal genomic DNA from RNA preparations using a 2 column process.
- Purified RNA can be used in a number of downstream applications including real time PCR, reverse transcription PCR, Northern blotting, RNase protection and primer extension, and expression array assays
- RNA is isolated without the use of harmful chemicals as phenol or chloroform.
- Rapid protocol 10 minutes.

REAL DNA Removal kit
Ref. RBMER29 50 preps.

RNA PURIFICATION

REAL DNA/ RNA Purification kit

REAL DNA/RNA PURIFICATION Kit provides a rapid method for the extraction and purification of genomic DNA and total RNA simultaneously from a single sample of cultured animal cells and small tissues samples.

The process involves first lysing the cells or tissue of the interest in a highly denaturing guanidine-isothiocyanate containing buffer that will rapidly inactivate RNases and DNases to ensure isolation of intact DNA and RNA. The lysate is then passed through a DNA spin column, this column allows selective binding of genomic DNA. The column is washed and pure, ready-to-use DNA is eluted.

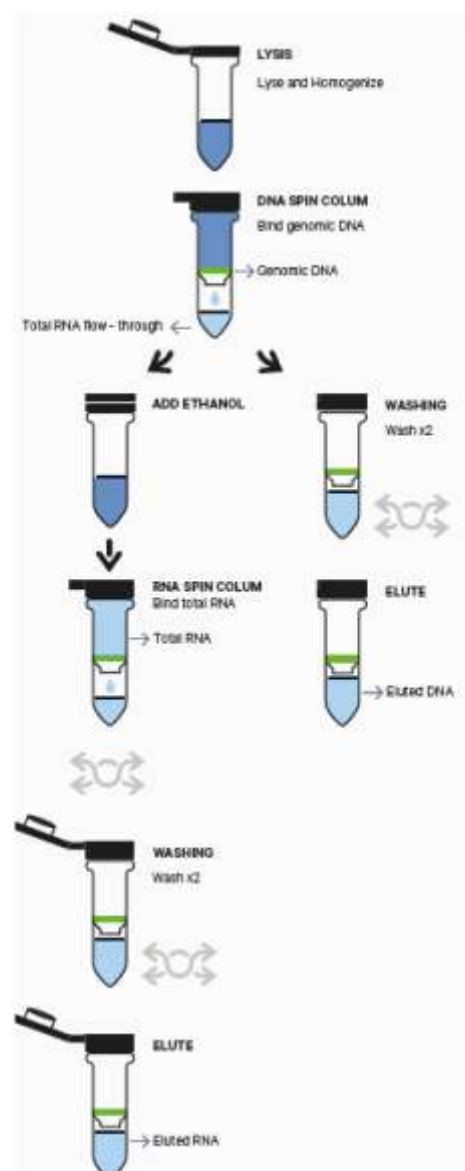
Ethanol is added to the flow-through from the DNA spin column to provide appropriate binding conditions for RNA, and the sample is then applied to a RNA spin column, where total RNA binds to the membrane and contaminants are efficiently washed away, high-quality RNA is then eluted.

Features

- High quality DNA and RNA from the same sample using DNA and RNA spin columns.
- Analysis will be more reliable since the RNA and DNA are derived from the same sample.
- DNA and RNA are isolated without the use of harmful chemicals as phenol or chloroform.
- Fast and rapid processing in less than 20 minutes.
- Ready-to-use DNA and RNA for any downstream analysis.

Applications

- Rapid purification of total RNA, DNA, and protein from small and precious samples – no sample splitting for different isolations necessary.



REAL Spin DNA/RNA kit
Ref. RBMER16 50 Preps.

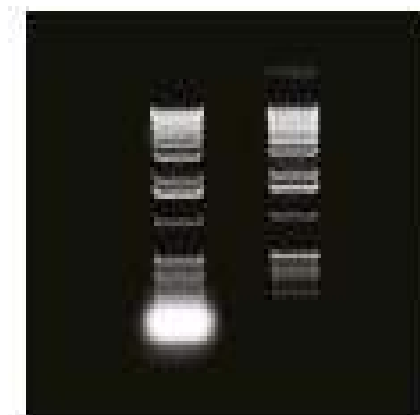
DNA CLEAN-UP

REAL PCR Clean-up kit

This kit is designed for the rapid purification of **PCR amplification products (100 bp to 10 kb)** from other components in the reaction, such as excess primers, nucleotides, DNA polymerase and salts. DNA is bound on a silica membrane within the spin column. The bound DNA is washed and the clean, concentrated DNA is eluted in a buffer.

Features

- Silica membrane technology.
- Purifies up to 100 µl or 10 µg of PCR amplified DNA in 8 minutes.
- High recovery even for small DNA fragments (> 100 pb).
- Reduced elution volume 25-30 µl.
- DNA precipitation is not necessary.
- Purified DNA can be used directly in other enzymatic reactions.

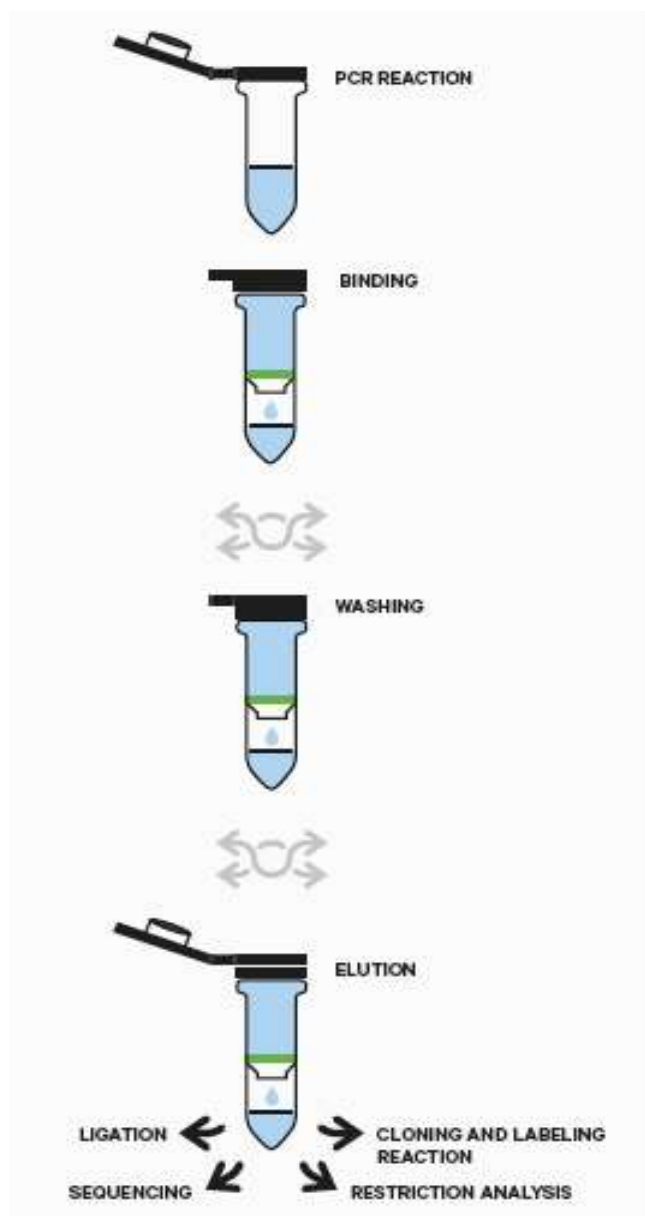


Primer/dimer removal.
1Kb marker was contaminated with a excess of a 40 bp oligomer and a later purification with REAL Clean-up PCR Kit.

REAL Clean PCR kit
Ref. RBMCS06 50 columns

REAL Clean PCR kit
Ref. RBMCS03 250 columns

REAL Clean PCR kit
Ref. RBMCS07 1.000 columns



DNA CLEAN-UP

REAL Gel / PCR kit

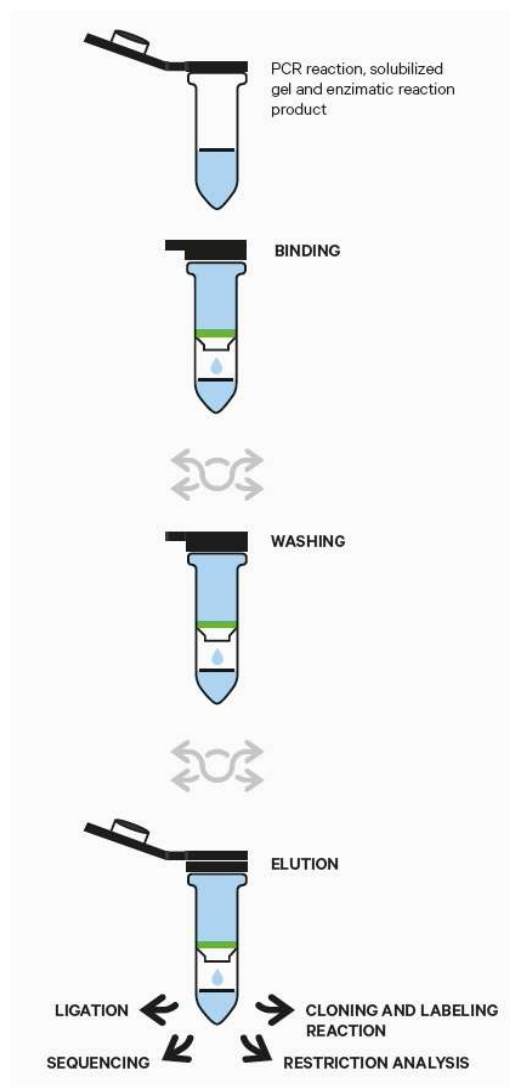
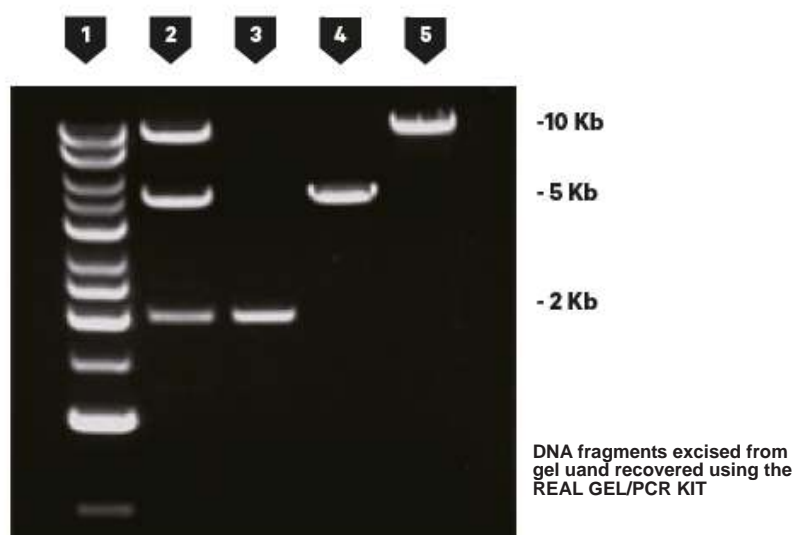
This kit is designed for the rapid purification of highly pure DNA fragments from agarose gels and aqueous solutions (desalination), and PCR amplification products from other components in the reaction, such as excess primers, nucleotides, DNA polymerase and salts.

It includes a pH indicator which is premixed with the binding buffer to ensure optimal pH, facilitate DNA binding and allow for easy observation of undissolved agarose gel. If pH exceeds the optimal level (>7.5), the color of the solution will appear purple instead of yellow. 3M Sodium Acetate (pH5.0), which is included with the kit, can then be added to the solution to adjust pH and return the color to yellow.

DNA is bound on a silica membrane within the spin column. The bound DNA is washed and the clean, concentrated DNA is eluted in a buffer.

Features

- Silica membrane technology.
- No organic solvents required.
- High recovery even for small DNA fragments (> 100 pb).
- Reduced elution volume 25-30 µl.
- DNA purification from either TAE or TBE agarose gel.
- Primer and primer/dimer removal.



REAL Spin GEL/PCR kit
Ref. RBMCS01 50 Purifications

REAL Spin GEL/PCR kit
Ref. RBMCS02 250 Purifications

REAL Spin GEL/PCR kit
Ref. RBMCS08 1.000 Purifications

DNA CLEAN-UP

REAL Clean & Concentration kit

This kit provides a rapid method for purification and concentration of high-quality DNA from PCR or enzymatic reactions with an extremely small elution volume of only 10 µl using special MicroSpin columns.

Features

- The microspin columns are designed to allow elution in very small volumes (as little as 10 µl) delivering highly concentrated DNA in high yields.
- DNA Size Limits: From 100 pb to 23 Kb.
- DNA Recovery: up to 5 µg total DNA per column can be eluted into as little as 10 µl.
- The protocol is done in 2 minutes.
- Fast procedure and easy handling.
- Eluted DNA is well suited for use in DNA ligation, sequencing, labelling, PCR, etc.

Applications

- PCR products clean-up, efficient desalting of DNA with the removal of DNA polymerases, primers and free dNTPs.
- DNA clean-up from Enzymatic Reactions, including: Desphosphorylation, Restriction enzyme digestion, Ligation, Primed synthesis, Endlabeling and Nick translation.
- Isotope and Dye Removal, efficiently removes unincorporated fluorescent (i.e., AMCA, FITC, BIO, DIG, Cy3, Cy5, FAM, etc) and radiolabeled dNTP derivats from DNA following in vitro labeling reactions



REAL Clean & Concentration kit
Ref. RBMCS04 50 Purifications

REAL Clean & Concentration kit
Ref. RBMCS05 250 Purifications

REAL Clean & Concentration kit
Ref. RBMCS09 1.000 Purifications

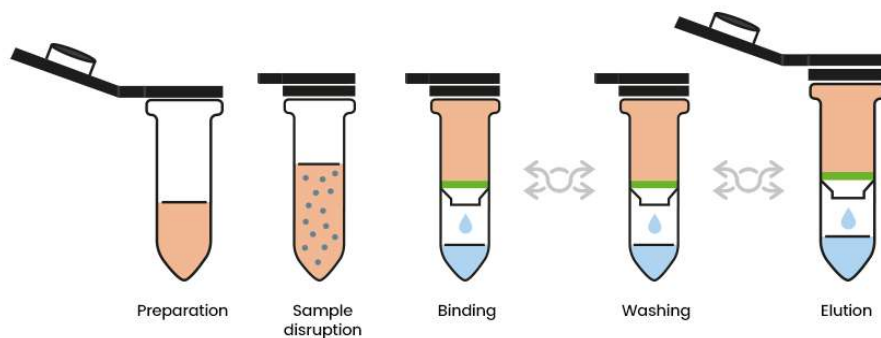
MICROBIOMICS

REAL Microbiome Fecal DNA Kit

REAL MICROBIOME Fecal DNA kit has been designed for a fast and efficient purification of microbial DNA for MICROBIOME analysis from :

- Up to 200 mg fresh and frozen human or animal stool samples.
- Stool homogenate from 0.50-1.0 gr stool and stabilized in 8 ml REAL STOOL Sample Collection MICROBIOME Kit.

In this procedure, the microorganisms are efficiently lysed by a combination of heat, chemical and mechanical disruption with specialized beads. Inhibitors are eliminated by precipitation using a proprietary cleanup buffer. The sample is then applied to a microspin column and the DNA that is bound to the column undergoes a single wash step before elution.



Features

- Designed for a fast and easy purification microbial DNA from different types of stool samples.
- Silica-membrane technology with MiniSpin columns.
- Optimized lysis method-Combination of heat, chemical and mechanical lysis via bead-based homogenization enables isolation of DNA from yeast, fungi, Gram-negative and Gram-positive bacteria.
- Eliminates inhibitory substances, including lipids, polysaccharides and heme.
- Typical yield: Approx. 5-60 µg depends on sample type.
- Preparation Time: 35 min.
- Elution volume: 200 µl.
- No phenol/chloroform extraction or ethanol precipitation is necessary.

Applications

- Microbiome analysis
- PCR applications.
- RFLP analysis.
- Patogehn typing.
- Mutation analysis

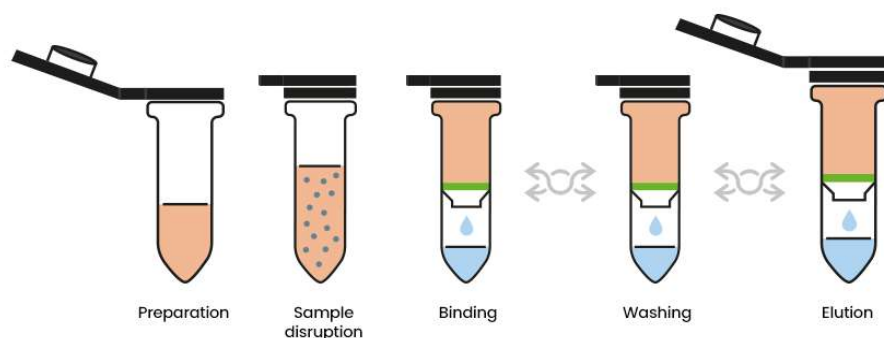
REAL Microbiome Fecal DNA kit
Ref. RBMEGS16 50 Extractions

MICROBIOMICS

REAL Microbiome Soil DNA Kit

REAL MICROBIOME Soil DNA kit has been designed for a fast and efficient purification of microbial DNA from environmental samples like soil samples

In this procedure, the microorganisms are efficiently lysed by a combination of heat, chemical and mechanical disruption with specialized beads. Inhibitors are eliminated by precipitation using a proprietary cleanup buffer. The sample is then applied to a microspin column and the DNA that is bound to the column undergoes a single wash step before elution.



Features

- Designed for a fast and easy purification microbial DNA from different types of soil samples.
- Silica-membrane technology with MiniSpin columns.
- Efficient lysis of all microorganisms (including durable species with thicker and more complex cell walls) by a combination of heat, chemical, and mechanical disruption with specialized beads.
- Eliminates inhibitory substances as humic substances and others inhibitors.
- Typical yield: Approx. 5-20 µg depends on sample type.
- Preparation Time: 35 min.
- Elution volume: 50-100 µl.
- No phenol/chloroform extraction or ethanol precipitation is necessary.

Applications

- Microbiome analysis
- PCR applications.
- RFLP analysis.
- Patogehnn typing.
- Mutation analysis

REAL Microbiome Soil DNA kit
Ref. RBMEGS18 50 Extractions

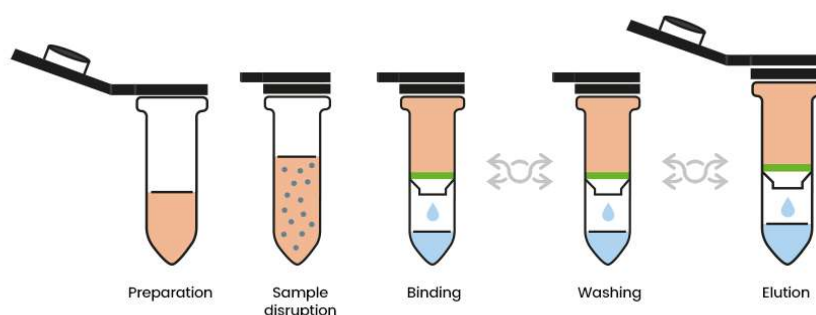
MICROBIOMICS

REAL Microbial DNA Kit

REAL Microbial DNA is designed for rapid purification of highly pure genomic DNA from microorganisms (gram-negative and gram-positive bacteria, yeast, and fungi).

Microbial samples such as gram-positive bacteria, yeast, and spores can be difficult to lyse due to their strong complex cell wall structures. The REAL Microbial DNA kit replaces enzymatic lysis by utilizing mechanical disruption of cell wall structures with the Bead Microtubes. The Bead Microtubes can be used in combination with many compatible disruptive devices.

Beginning with a bead-beating protocol, cells are lysed through a combination of mechanical force, heat and detergent, vortexed using horizontal adapter for the Vortex Genie 2 Vortex or using others common disruption devices. Appropriate DNA binding conditions to the Microbial DNA Columns are achieved by addition of large amounts of chaotropic salts (Binding Buffer) to the lysate. Contaminants are removed by two efficient washing steps. Afterwards, The resulting DNA is recovered in a DNA-free Tris buffer to use for subsequent reactions



Features

- Designed for rapid purification of highly pure genomic DNA from microorganisms(gram-negative and gram-positive bacteria, yeast and fungi).
- Silica-membrane technology with MiniSpin columns.
- Bead Microtubes for efficient lysis included in combination liquid Proteinase K.
- Suitable for a large variety of starting materials: Microbial cultures and agar plates.
- Sample material: 1.5 ml culture up to 50 mg wet weight cell pellet.
- Typical yield: Approx. 5-25 µg depends on sample type.
- Preparation Time: 35 min.
- Elution volume: 100 µl.

Applications

- Total DNA from microbial cultures.
- Typical downstream applications: PCR, real-time PCR, southern blotting, enzymatic reactions.

REAL Microbial DNA kit
Ref. RBMEGS17 50 Extractions

MICROBIOMICS

REAL Microbiome Saliva DNA Kit

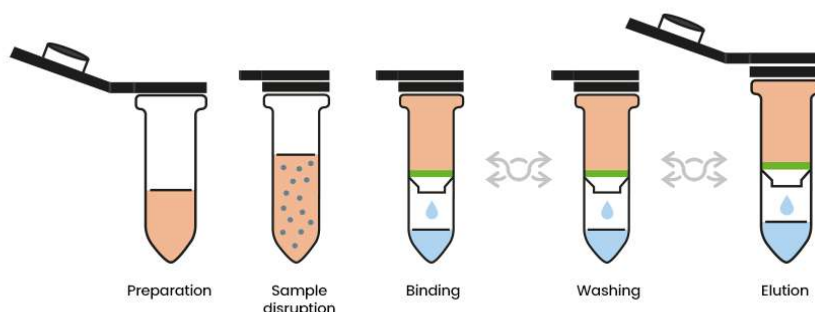
The microorganisms found in the human oral cavity have been referred to as the oral microflora, oral microbiota, or more recently as the oral microbiome. Human oral cavity harbors the second most abundant microbiota after the gastrointestinal tract.

The oral microbiome is one of the most diverse of any human-associated microbial community. The oral microbiome is a causative factor in conditions such as dental caries, periodontal disease, and halitosis, and has also been implicated as a reservoir for infection at other body sites and in the pathogenesis of non-oral diseases, such as inflammatory bowel disease.

REAL MICROBIOME SALIVA DNA Kit has been designed for a fast and efficient purification of microbial DNA from saliva samples.

Beginning with a bead-beating protocol, cells are lysed through a combination of mechanical force, heat and detergent, vortexed using horizontal adapter for the Vortex Genie 2 Vortex or using others common disruption devices.

Appropriate DNA binding conditions to the Microbial DNA Columns are achieved by addition of large amounts of chaotropic salts (Binding Buffer) to the lysate. Contaminants are removed by two efficient washing steps. Afterwards, The resulting DNA is recovered in a DNA-free Tris buffer to use for subsequent reactions.



Features

- Designed for rapid purification of highly pure microbial DNA for microbiome analysis.
- Silica-membrane technology with MiniSpin columns.
- Bead Microtubes for efficient lysis included in combination liquid Proteinase K.
- Sample material: saliva / preserved saliva samples.
- Typical yield: Approx. 2-20 µg depends on patient.
- Preparation Time: 35 min.
- Elution volume: 100 µl.

REAL Microbiome Saliva DNA kit
Ref. RBMEGS19 50 Extractions

SAMPLE COLLECTION & STABILIZATION

REAL STOOL Collection Microbiome kit

REAL has developed a complete system for processing samples of human or animal feces. REAL STOOL Sample Collection MICROBIOME Kit is an integrated system for collection, transportation and storage of stool samples and subsequent DNA purification. Transportation of the stabilized DNA can be carried out in the DNA Stabilization solution without refrigeration at ambient temperature. REAL STOOL Sample Collection Kit enables collection, storage and stabilization of stool samples. It comes in a tube with spoon and liquid stabilization solution that preserves the MICROBIOME profiling.

Microbial composition of stool sample preserved at room temperature is unchanged after 15 days and with minimums changes after two months with DANASTOOL preservative solution. Samples had a constant microbial composition.

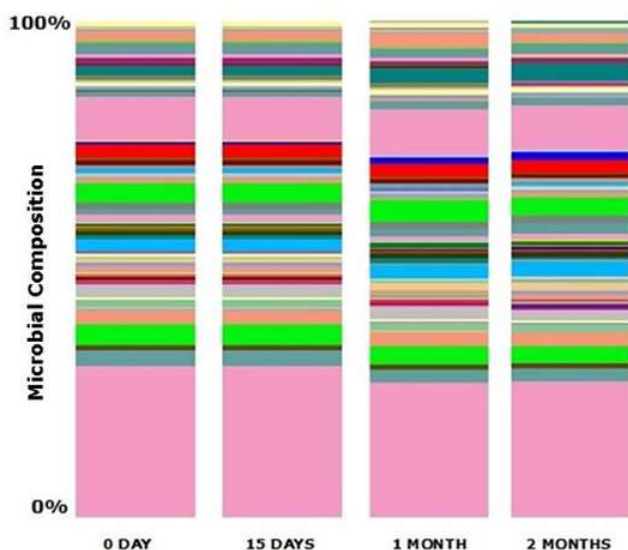


Fig.1 Muestras de heces conservadas con REAL STOOL solución estabilizadora

Features

- Easy to use, designated for collection and safe transportation because the samples become Not Infectious.
- It is not necessary to process the samples immediately.
- It stabilizes the DNA for several months at room temperature and at -20 or -80 indefinitely.
- Eliminate odor during processing.
- Compatible with a variety of purification systems. The use of our REAL MICROBIOME DNA Kit is highly recommended.
- The REAL STOOL preservative solution preserves microbiota profiles for unbiased and reproducible results and providing sample homogeneity eliminating sample variability.
- The REAL STOOL preservative solution and our DNA isolation method are capable of maintaining DNA integrity.

REAL Stool Sample collection kit
Ref. RBMSC50 50 tubes

REAL Stool Sample collection kit
Ref. RBMSC250 250 tubes

SAMPLE COLLECTION & STABILIZATION

REAL SALIVA SAMPLE Collection Microbiome kit

The microorganisms found in the human oral cavity have been referred to as the oral microflora, oral microbiota, or more recently as the oral microbiome. Human oral cavity harbors the second most abundant microbiota after the gastrointestinal tract.

The oral microbiome is one of the most diverse of any human-associated microbial community . The oral microbiome is a causative factor in conditions such as dental caries , periodontal disease , and halitosis , and has also been implicated as a reservoir for infection at other body sites and in the pathogenesis of non-oral diseases, such as inflammatory bowel disease .

REAL has developed a complete system for the study of ORAL MICROBIOME: REAL SALIVA Sample Collection MICROBIOME Kit is An all-in-one collection kit for the collection and stabilization of microbial DNA from saliva.



Features

- All-in-one devices for optimal self-collection
- Standardize sample collection
- Stabilize microbial DNA at ambient temperature at least 1 year
- Provide a snapshot of the saliva microbiome.
- Suitable for NGS downstream applications

REAL Saliva Sample collection kit
Ref. RBMSALMC100 100 tubes

REAL Saliva Sample collection kit
Ref. RBMSALMC500 500 tubes

REAL Saliva Sample collection kit
Ref. RBMSALMC1000 1000 tubes

SAMPLE COLLECTION & STABILIZATION

REAL SALIVA sample Collection kit

REAL Sample Collection Kit provide a safe and rapid all-in-one procedure for the collection, stabilization and transportation of **2 ml saliva samples at ambient temperature**.

Our system effectively stabilizes buccal cell and white blood cells found in saliva without breaking them over 1 year at room temperature.

Saliva samples are collected by spitting inside the **collection funnel** which has been assembled with the **collection tube**. After collecting 2 ml saliva the contents of **saliva preservation solution** are then added and mixed with the collected saliva. The saliva collection tube is sent to the laboratory for DNA isolation and analysis **using the REAL SALIVA KIT**.

Features

- ⁂ Easy collection, transportation and processing.
- ⁂ Painless, non-invasive collection.
- ⁂ Samples can be mailed using the standard postal system.
- ⁂ Compatible with most DNA isolation methods and can be automated.
- ⁂ Sample remains stable for 1 year at room temperature, reducing transportation and storage costs.



REAL Saliva Sample Collection kit
Ref. RBMSAL100 100 units

REAL Saliva Sample Collection kit
Ref. RBMSAL500 500 units

REAL Saliva Sample Collection kit
Ref. RBMSAL1000 1000 units

SAMPLE COLLECTION & STABILIZATION

REAL RNA SALIVA sample Collection kit

Saliva, the most accessible and noninvasive biofluid of our body, harbors a wide spectrum of biological analytes informative for clinical diagnostic applications. Recently, human RNA obtained from saliva was shown to be a biomarker for several diseases.

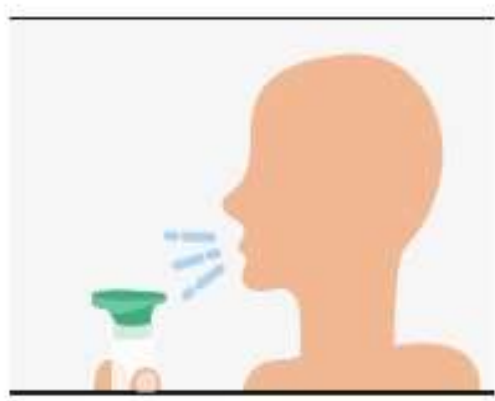
REAL has developed a complete system that uses saliva as the sample source for expression studies.

REAL SALIVA RNA Sample Collection Kit provides a safe and rapid all-in-one procedure for the collection, stabilization and transportation of 1 ml saliva samples at ambient temperature that stabilizes RNA from the moment of collection for 1 month.

Saliva samples are collected by spitting inside the collection funnel which has been assembled with the collection tube. After collecting 1 ml saliva the content of saliva preservation solution are then added and mixed with the collected saliva. The saliva collection tube is sent to the laboratory for RNA isolation and analysis using the DANAGENE SALIVA RNA Kit.

Features

- ⁿ Easy collection, transportation and processing.
- ⁿ Sample volume: 1 ml saliva
- ⁿ Samples can be mailed using the standard postal system.
- ⁿ Sample remains stable for 1 year at room temperature, reducing transportation and storage costs.
- ⁿ Painless, non-invasive collection
- ⁿ Human mRNA expression profiling for sensitive downstream applications.



REAL Saliva Sample Collection kit
Ref. RBMSALRNA100 100 units

REAL Saliva Sample Collection kit
Ref. RBMSALRNA500 500 units

REAL Saliva Sample Collection kit
Ref. RBMSALRNA1000 1000 units

SAMPLE COLLECTION & STABILIZATION

REAL SWABS SALIVA sample Collection kit

REAL SWABS Sample Collection Kit provides a safe and rapid all-in-one procedure for the collection, stabilization and transportation of **saliva swab samples**. It contains a swabs + stabilizing buffer microtube.

We use Copan 4N6FLOQSwabs™ specifically designed and dedicated to DNA collection, this swabs are certified DNase, RNase-Free and Human DNA-Free, as well as free of any PCR inhibitors. And tested in our laboratory as the highest yielding DNA.ecting 2 ml saliva the contents of **saliva preservation solution** are then added and mixed with the collected saliva. The saliva collection tube is sent to the laboratory for DNA isolation and analysis **using the REAP SALIVA KIT**.

After collection there are 2 possibilities:

A. The swab is introduced in the cylindrical container for a safe transport of the sample to the laboratory for DNA extraction. In this case the stability of the swab is 1-2 weeks.

B. The swab is introduced into a microtube containing a preservation solution, thus the buccal cells can be transported and stabilized for 1 year at room temperature and indefinitely at -20 or -80.

Features

- ⁂ Unique swab matrix greatly improves DNA yields.
- ⁂ Painless, non-invasive collection.
- ⁂ Easy to handle and quick to use.
- ⁂ Compatible with most DNA isolation methods and can be automated.
- ⁂ Sample remains stable for 1 year at room temperature.
- ⁂ High quality DNA is suitable for sensitive downstream applications.

Applications

- ⁂ STR Analysis-Human identification.
- ⁂ Genetics.
- ⁂ Forensics.
- ⁂ Paternity Tests.
- ⁂ Research Genotyping.



REAL SWABS Sample Collection kit
Ref. RBMEG08 50 Units

REAL SWABS Sample Collection kit
Ref. RBMEG09 100 Units

REAL SWABS Sample Collection kit
Ref. RBMEG10 500 Units

REAL SWABS Sample Collection kit
Ref. RBMEG11 1.000 Units

SAMPLE COLLECTION & STABILIZATION

REAL Stock

REAL Stock is a non-toxic solution that **allows the collection and storage of cells and tissues in different conditions and protect and stabilize the genomic DNA and RNA for its following isolation.**

REAL Stock Solution is a aqueous and nontoxic tissueholding liquid, which can in situ stabilize and protect RNA under non-frozen situation by rapid infiltrating fresh tissues and not affect RNA yield and integrality. Hence, RNA Stabilization Solution eliminates inconveniences to flash freeze samples in liquid nitrogen or take samples from different places. When fresh tissues immersed into RNA Stabilization Solution, RNA can be stored up to a day at 37° C, a week at 25° C, a month at 4° C and a long term at -20° C or -80° C. RNA virus (such as HCV and HIV) is stable up to a month at 37° C in RNA Stabilization Solution.

REAL Stock can be used for preserving animal tissue samples, cultured cells and bacteria.

Features

- It removes the need of processing immediately the samples.
- The samples can be preserved for 2 weeks at room temperature (20- 25°C); 1 month at 4°C and indefinitely at -20°C or -80°C.
- More flexibility as it simplifies the sample collection, it is no necessary to freeze samples in liquid N2 or in laboratory freezers.
- It is an alternative to the use of paraffin for protecting tissues.
- Allows the collection of samples in places that are out from the laboratories.
- It is compatible with the REAL purification kits.

REAL Stock
Ref. RBMST01 100 ml

REAL Stock
Ref. RBMST02 500ml

PURIFICATION CIRCULATING DNA

REAL Circulating DNA

Circulating DNA Minikit provides a fast, reliable and convenient method to purify high quality, high purity and inhibitor-free cell-free circulating DNA from fresh and frozen plasma / serum samples and other body fluids from samples of 1 ml using a MicroSpin Columns specially developed to bind small fragments of DNA.

REAL Circulating DNA Midikit provides a fast, reliable and convenient method to purify high quality, high purity and inhibitor-free cell-free circulating DNA from fresh and frozen plasma / serum samples and other body fluids from samples of 3 ml using a new column design for processing large volume sample volumes.

A specially formulated buffer system allows circulating DNA to bind to the MicroSpin columns. Samples are lysed under denaturing conditions and then transferred to the DNA column where DNA binds and cellular debris, hemoglobin, and other proteins are washed away. High-quality DNA is eluted in nuclease-free water. Normally the circulating DNA is highly fragmented 50-1000 bp. The degree of fragmentation depends on several parameters such as the origin of DNA (fetal, tumor, microbial DNA), health blood donor, procedure blood collection, handling and storage of the sample.

Features

- Efficient recovery and concentration of fragmented DNA (circulating cell-free DNA) with high input and low elution volume 30-35 µl.
- Sample size: Mini 1 ml; Midi 3ml Midi fresh and frozen plasma/serum and other body fluids.
- No organic extraction or ethanol precipitation.
- Removal of contaminants and inhibitors.
- Yield: 0.1-100 ng / ml plasma or serum. Variable because each donor and disease status.
- Circulating DNA purified is ready for applications such PCR or real-time PCR, microarrays and Next generation sequencing.

Applications

- Biomarker research and validation for blood-based cancer detection.
- Ideal for detection of biomarkers in different diseases like autoimmune diseases, infection diseases stroke, sepsis, trauma and hematologic disorders.
- Analysis of fetal DNA from maternal plasma.

REAL Circulating DNA Mini kit
Ref. RBMEC01 (samples 1ml) 50 Preps

REAL Circulating DNA Mini kit
Ref. RBMEC02 (samples 3ml) 5 Preps

REAL Circulating DNA Mini kit
Ref. RBMEC03 (samples 3ml) 50 Preps



New column design for processing large sample volumes

miRNA and Cell-Free RNA

REAL microRNA and Cell-free RNA minikit/ Midikit

REAL microRNA and Cell-free RNA Minikit/MidiKit provides an efficient isolation of microRNA and small RNA from liquid biopsies including serum, plasma and others biofluids without the use of toxic phenol or chloroform. This kit allows to isolate all RNAs smaller than 1000 nt, from mRNA and tRNA down to microRNA and small interfering RNA (siRNA).

The sample material is denatured in Lysis buffer. Proteins are precipitated using the precipitation buffer and pelleted by centrifugation. After removal of proteins the binding conditions are adjusted by adding a special Binding buffer for small RNA.

The small RNA are bound to special columns. The remaining RNAs are washed and eluted with minimal amounts of RNase-free water.

Features

- Efficient isolation of microRNA and Cell-free rna from biofluids samples without phenol/chloroform .
- Sample size: Mini 300 µl (up to 600 µl multiple loading); ;Midi 3 ml fresh and frozen plasma/serum and other body fluids.
- Simple and fast procedure.
- Increased sensitivity in downstream applications .
- Yield: Depending on sample source, storage and quality.

Applications

- Ideal for detection of biomarkers in cancer and others diseases.
- Typical downstream applications: real-time qRT-PCR. Chip hybridisations.



New column design for processing large sample volumes

REAL microRNA and Cell-free RNA minikit
Ref. RBMER17 50 Preps

REAL microRNA and Cell-free RNA midikit
Ref. RBMER30 5 Preps

REAL microRNA and Cell-free RNA midikit
Ref. RBMER31 50 Preps

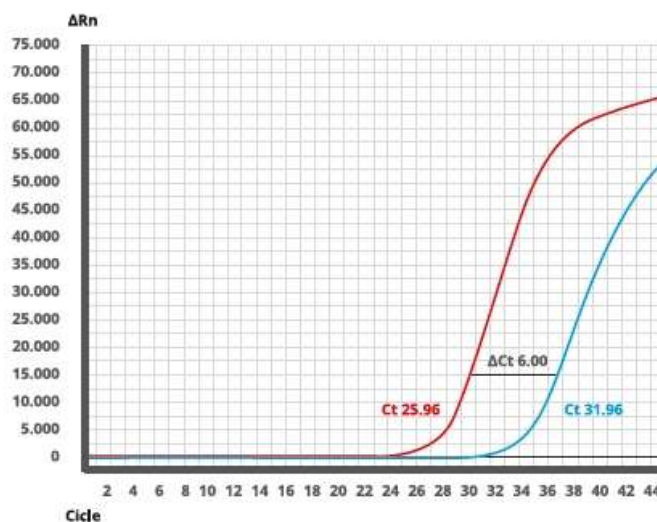
QUANTIFICATION CIRCULATING DNA

REAL Quantification of cfDNA

Quantification of cfDNA is ideally carried out by qPCR or capillary electrophoresis since common methods such as absorption measurement or fluorescent dye based quantification might lead to false results due to low DNA concentration. The total cfDNA isolated can be quantified using the Cell-free human DNA detection-qPCR Test designed to target a conserved sequence region of a gene repeated more than a hundred times in the human genome.

Real-time PCR amplification plot

Real-time PCR amplification plot for cfDNA detection-qPCR Test (red) targeting a "non-truncated" multi-copy gene and compared to a monocopy target (blue), using a human genomic DNA as a standard. Due to the presence of multiple copies of the selected target, sensitivity is increased 2 logs (100 times) for the cfDNA detection-qPCR Test. Same increased signal is observed for the purified cell-free DNA samples employed for cell-free DNA quantification.



Quantification of cf-DNA from plasma

Quantification of cf-DNA from plasma Blood samples were collected from 8 patients (samples 1 to 8) with breast cancer

and healthy controls. 2 samples were used for healthy individuals (sample 9 and 10) and 2 samples of healthy individuals were

spiked with 150 ng (sample 11) and 300 ng (sample 12) of human genomic DNA.

Circulating cell-free DNA was extracted from 3 ml of plasma following DANAGENE Circulating DNA Kit protocol and quantified using the Cell-free human DNA detection-qPCR Test.

We successfully detected increased concentrations of circulating cell free-DNA in all cancer patients.

Sample	Ct	Copiesnon assay	Sample Concentration (copies/u)
1	22.34	6.38+04	1.4E+04
2	21.18	1.4E+05	2.8E+04
3	20.67	2.0E+05	4.0E+04
4	22.21	7.4E+04	1.5E+04
5	22.43	6.4E+04	1.3E+04
6	20.82	1.8E+05	3.6E+04
7	23.30	3.6E+04	7.2E+03
8	21.33	1.3E+05	2.6E+04
9	26.31	5.0E+03	1.0E+03
10	28.46	1.2E+03	1.4E+02
11	20.78	1.9E+05	3.8E+04
12	19.47	4.5E+05	9.0E+04

REAL cfhDNA Monodose detection-qPCR
Ref. RBMER32 24 Tests

REAL cfhDNA Monodose detection-qPCR
Ref. RBMER33 48 Tests

REAL cfhDNA Monodose detection-qPCR
Ref. RBMER34 96 Tests

SEQUENCING CLEAN UP

REAL Spin Sequencing Reaction Clean-up

REAL SPIN Sequencing reaction clean-up is designed for fast and efficient **removal of unincorporated dye terminators from sequencing reactions using a simple spin column procedure.**

The procedure uses gel filtration to quickly and efficiently remove unincorporated terminators from sequencing reactions. Removal of dye terminators is important to prevent the unincorporated dye terminators from interfering with analysis of sequencing results.

The kit utilizes a fully hydrated gel filtration matrix that provides for a convenient and simple method of dye terminator removal for sequencing cleanup. When sequencing reaction mixtures are applied to REAL SPIN, dye terminators diffuse into the pores and are retained in the gel filtration material, while labeled DNA fragments are excluded and recovered in the flow-through.

Features

- ⁂ Ready-to-use prehydrated gel-filtration material.
- ⁂ Fast spin column procedure with only two short centrifugation steps.
- ⁂ Binding capacity: 10-75 µl.
- ⁂ 98% removal dye terminators.
- ⁂ 95% Recovery >22pb.



REAL Spin DTR
Ref. RBMS01 50 Columns

NUCLEIC ACID GEL ELECTROPHORESIS

REAL BUFFERS

10X TAE

10X TAE Buffer is a sterile-filtered solution of 400 mM Tris-acetate and 10 mM EDTA. Box. A 1X TAE Buffer solution contains 40 mM Tris-acetate and 1 mM EDTA at pH 8.3.

Features

- Convenient, ready-to-use solution for electrophoresis.
- It is supplied in 1 L plastic bottles or in a 3 L stackable.
- High purity; free from contaminants.
- Save time and standardize gel runs.

10X TBE

10X TBE Buffer is a sterile-filtered solution of 1 M Tris, 0.9 M boric acid, and 0.01 M EDTA used to prepare 1X buffer for polyacrylamide and agarose gel electrophoresis.

Features

- Convenient, ready-to-use solution for electrophoresis.
- It is supplied in 1 L plastic bottles or in a 3 L stackable.
- High purity; free from contaminants.
- Save time and standardize gel runs

REAL 10X TAE
Ref. RBMTAE 3L.

REAL 10X TBE
Ref. RBMTBE 3L.

NUCLEIC ACID GEL ELECTROPHORESIS

REAL SAFE

REAL SAFE Nucleic Acid Gel Stain Solution (20,000x) is a new and safe nucleic acid stain, an alternative to the traditional ethidium bromide(EtBr) stain for detecting nucleic acid in agarose gels.

It emits green fluorescence when bound to DNA or RNA. This new stain has two fluorescence excitation maxima when bound to nucleic acid, one centered at 309nm and another at 419nm. In addition, it has one visible excitation at 514 nm. The fluorescence emission of REALSAFE bound to DNA is centered at 537 nm.

The staining protocol for REALSAFE Nucleic Acid Staining Solution (20,000x) is similar to that for EtBr. Compared to EtBr, known as a strong mutagen, REALSAFE Nucleic Acid Staining Solution (20,000x) causes much fewer mutations in the Ames test. In addition, REALSAFE Nucleic Acid Staining Solution (20,000x) has a negative result in mouse marrow chromophilous erythrocyte

Features

- ⁂ Used for detecting DNA and RNA.
- ⁂ Alternative to the ethidium bromide staining.
- ⁂ As sensitive as EtBr or more sensitive than that.
- ⁂ Non-toxic, non-mutagenic and non-carcinogenic.
- ⁂ No hazard waste.

Features

- ⁂ Visualization of DNA and RNA bands as they separate during agarose gel electrophoresis.
- ⁂ Isolation of DNA fragments for subcloning without introducing mutations normally caused by EtBr.

REAL SAFE Staining Solution
Ref.RBMSAFE 1ml.

NUCLEIC ACID GEL ELECTROPHORESIS

REAL Markers

REAL MARKER BEETHOVEN is a ready-to-use molecular weight marker, especially designed for easy size determination. This ready-to-use format reduces handling steps and saves time; simply transfer marker from the vial to the gel.

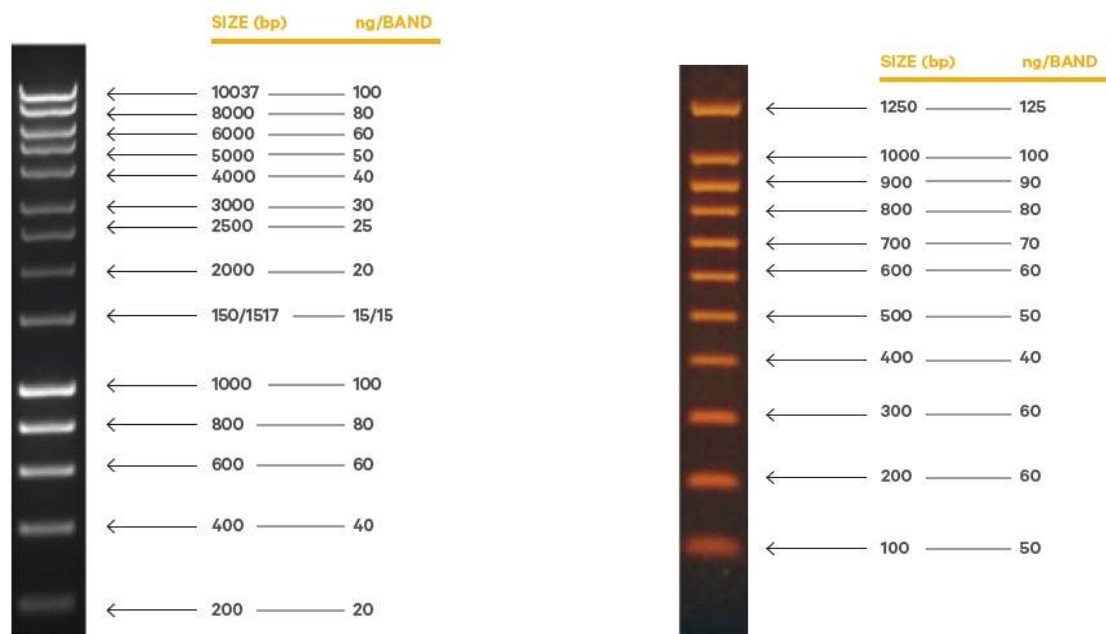
Features

- Easy size determination: 14 bands from 200bp – 10.037bp.
- Contains dye: For direct gel loading.
- Several higher intensity bands: For easy orientation.
- Easy storage: Stable for 6 months at room temperature.

REAL MARKER SCHUMANN is a ready-to-use molecular weight marker, especially designed for easy size determination. This readyto-use format reduces handling steps and saves time; simply transfer marker from the vial to the gel.

Features

- Easy size determination: 11 bands from 100bp – 1.250 bp
- Isolation of DNA fragments for subcloning without introducing mutations normally cause by EtBr.
- Contains dye: For direct gel loading.
- Several higher intensity bands: For easy orientation.
- Easy storage: Stable for 6 months at room temperature.



REALMarker Beethoven
Ref. RBMLADDER1

REAL Marker Schumann
Ref. RBMLADDER2



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