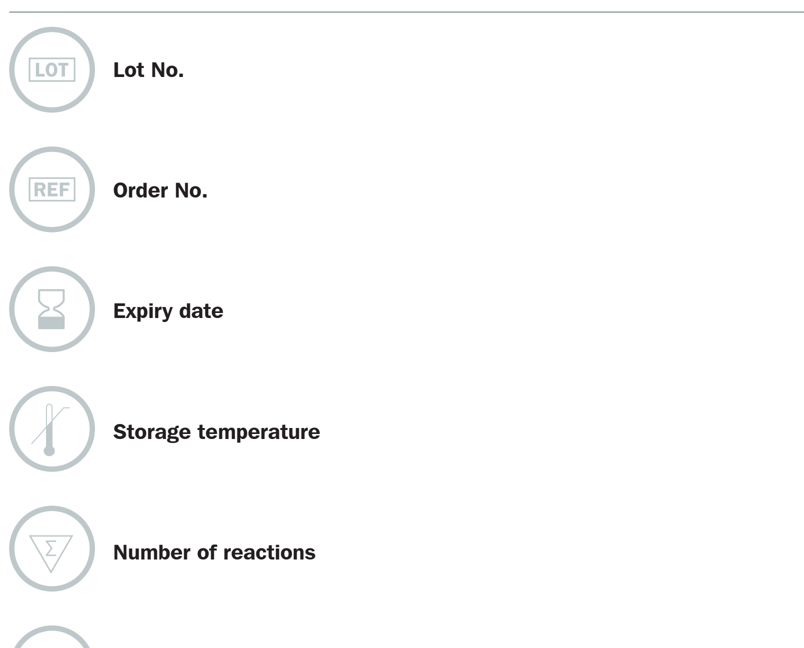
ExtractNow™ Virus DNA/RNA Kit

Simultaneous isolation of viral DNA and RNA from a variety of starting materials

INSTRUCTIONS FOR USE

FOR USE IN RESEARCH AND QUALITY CONTROL

Symbols



INDICATION

The ExtractNow™ Virus DNA/RNA kit is developed for simultaneously isolating viral DNA and RNA from a broad range of starting material such as cell-free biological fluids (plasma, serum, urine, liquor, and cell culture supernatant) but also tissue and swab specimen. Up to 400 µl of fluid and up to 20 mg of solid material can be used. The purified nucleic acids are free of contaminants and suitable for many downstream applications such as PCR and RT-PCR.

PRINCIPLE OF THE METHOD

The method is simple and consists of four general steps: (1) cell lysis, (2) selective binding of nucleic acids to spin columns, (3) removal of residual contaminants and inhibitors, and (4) elution of purified nucleic acids. The procedure does not require phenol/chloroform extraction and needs minimal handling time.

CONTENT

Each kit contains reagents for 10 or 50 extractions. The expiry date of the unopened package is marked on the package label. Store the lyophilized proteinase K at 4 °C. Store the lyophilized Carrier Reagent at –20 °C and all other components at room temperature (18 to 25 °C). Before every use, ensure that all components have room temperature. Dissolve any precipitates in the solutions by moderate warming.

Kit component	10 extractions (606-1010)	50 extractions (606-1050)
Spin columns (blue)	10 units	50 units
Collection tubes	60 units	6 x 50 units
Lysis Buffer B	10 ml	25 ml
Binding Buffer C	16 ml	60 ml
Wash Buffer C	5 ml (add 5 ml of ethanol (>96 %) before first use)	15 ml (add 15 ml ethanol (>96 %) before first use)
Wash Buffer D	6 ml (add 24 ml of ethanol (>96 %) before first use)	16 ml (add 64 ml of ethanol (>96 %) before first use)
RNAse-free Water	2 x 2 ml	3 x 2 ml
Carrier Reagent	1 x (add 1.25 ml of RNAse-free water)	1 x (add 1.25 ml of RNAse-free water)
Proteinase K	1 x 6 mg (add 0.3 ml of ddH_2O)	1 x 30 mg (add 1.5 ml of ddH_2O)

The LOT-specific QC certificate (*Certificate of Analysis*) can be downloaded from our website (www.minerva-biolabs.com).

USER-SUPPLIED CONSUMABLES AND EQUIPMENT

The ExtractNow™ Virus DNA/RNA kit contains reagents for isolating viral DNA and RNA from various sources. Additional consumables and equipment is supplied by the user:

- Ethanol > 96 % abs.
- 1.5 ml tubes
- 2 ml tubes
- Microcentrifuge and heat block or thermomixer for 1.5 ml reaction tubes
- Pipettes with corresponding filter tips (100 and 1000 μl)
- ddH_2O for dissolving the Proteinase K
- Phosphate buffered saline

SPECIMEN

Avoid freeze-thaw-cycles of the starting material as it is detrimental to DNA and RNA integrity. In order to obtain best results it is also important not to overload spin columns. The maximum amounts of starting material are:

- 200 or 400 μl fluid samples
- up to 20 mg of tissue samples

Generally, RNA is less stable than DNA and particularly sensitive to degradation by RNAses. It is therefore essential to follow these recommendations:

- Always wear disposable laboratory gloves while handling the samples and reagents. Change gloves frequently.
- Keep samples as well as isolated RNA on ice.
- Use only RNAse-free tubes and RNAse-free filter tips.
- Do not handle any kind of cell cultures in the same laboratory where the RNA isolation will be conducted.
- Clean bench and pipettes with a RNAse decontamination solution (e.g. DNA Remover).
- All buffers and solutions should be prepared with RNAse-free water.

PRECAUTIONS

The ExtractNow™ Virus DNA/RNA kit is for research use only. The kit should be used by trained laboratory staff only.

All samples should be considered as potentially infectious and handled with all due care and attention. Always wear suitable lab coat, disposable gloves, and protective goggles.

In case of contact, flush eyes or skin with water. Do not swallow components of the kit. Clean with suitable laboratory detergent and water, if any liquid is spilt.

This kit can be disposed of as municipal waste according to local guidelines.

IMPORTANT NOTES

- Dissolve the Proteinase K with the given volume of ddH_2O and mix thoroughly by pipetting. Dissolved Proteinase K must be stored at –20 °C. Repeated freeze/thaw cycles will reduce the enzyme activity. We therefore recommend to prepare aliquots.
- Dissolve the Carrier Reagent with 1.25 ml RNAse-free water (included in the kit) and mix thoroughly by pipetting. We recommend to prepare aliquots of the dissolved Carrier Reagent. Do not freeze/thaw the Carrier Reagent more than three times.
- The Carrier Reagent contains carrier RNA as well as internal control DNA/RNA that needs to be spiked into Lysis Buffer B. The mixture of Lysis Buffer B and Carrier Reagent is stable for 1 day at 4 °C. We recommend to prepare the necessary volume of Lysis Buffer B/Carrier mixture according to the number of samples:

Component	Volume per sample (200 μl Protocol)	Volume per sample (400 μl Protocol)
Lysis Buffer B	240 μl	480 μl
Carrier Reagent	12 μl	12 μl
Final volume	252 μl	492 μl

- Ensure that ethanol was added to Wash Buffer C and Wash Buffer D. Do not use other alcohol apart from ethanol as it will lead to inconsistent yields.
- The centrifugation steps should be carried out at room temperature.

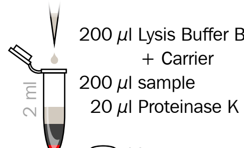
The reagents supplied should not be mixed with reagents from different LOT but used as an integral unit. The reagents of the kit must not be used beyond shelf life.

Follow the exact protocol. Any deviation may affect the results.

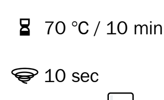
ExtractNow™ Virus DNA/RNA Kit

Isolation of viral DNA/RNA

... from fluids up to 200 µl

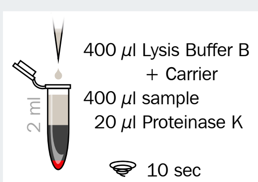


200 µl Lysis Buffer B
+ Carrier
200 µl sample
20 µl Proteinase K
10 sec

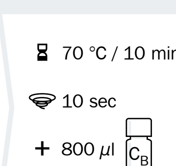


70 °C / 10 min
10 sec
+ 400 µl C_B

... from fluids up to 400 µl

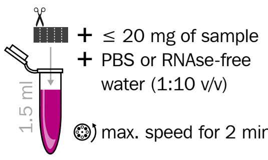


400 µl Lysis Buffer B
+ Carrier
400 µl sample
20 µl Proteinase K
10 sec

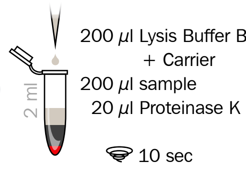


70 °C / 10 min
10 sec
+ 800 µl C_B

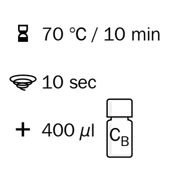
... from tissue/biopsy material (max. 20 mg)



+ ≤ 20 mg of sample
+ PBS or RNAse-free water (1:10 v/v)
max. speed for 2 min

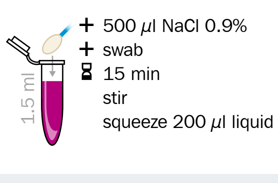


200 µl Lysis Buffer B
+ Carrier
200 µl sample
20 µl Proteinase K
10 sec

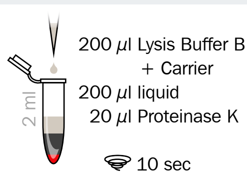


70 °C / 10 min
10 sec
+ 400 µl C_B

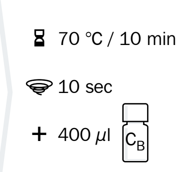
... from swab material



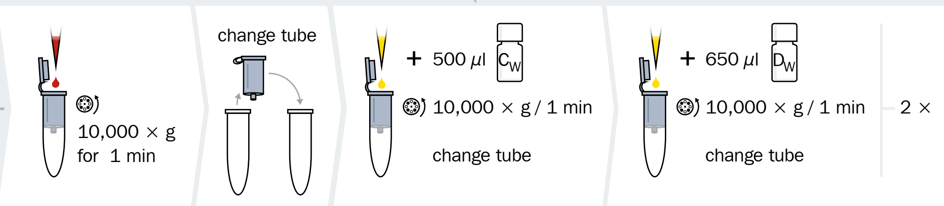
+ 500 µl NaCl 0.9%
+ swab
15 min
stir
squeeze 200 µl liquid



200 µl Lysis Buffer B
+ Carrier
200 µl liquid
20 µl Proteinase K
10 sec



70 °C / 10 min
10 sec
+ 400 µl C_B



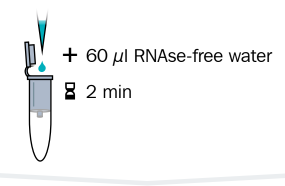
10,000 × g for 1 min

change tube

+ 500 µl C_W
10,000 × g / 1 min
change tube

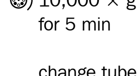
+ 650 µl D_W
10,000 × g / 1 min
change tube

2 ×



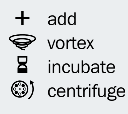
+ 60 µl RNAse-free water
2 min

8000 × g / 1 min



10,000 × g for 5 min

change tube



+ add
vortex
incubate
centrifuge

PROCEDURE

Protocol 1: Isolation of viral DNA/RNA from fluids up to 200µl

⇒ Prepare Lysis Buffer B/Carrier Reagent mix as described.
⇒ Reconstitute Wash Buffers C and D.
⇒ Set the heat block to 70 °C. Equilibrate the needed volume of RNAse-free water at 70°C

1.1	Pipette 200 µl of the Lysis Buffer B/Carrier Reagent mix into a 2 ml reaction tube. Add 200 µl of the sample and 20 µl of Proteinase K. Mix thoroughly by pulsed vortexing for 10 sec.
1.2	Incubate at 70 °C for 10 min. We recommend the use of a thermomixer for a permanent shaking of the sample. Alternatively, vortex the sample 3 to 4 times during the incubation.
1.3	Spin down the sample and add 400 µl of Binding Buffer C to the lysate. Mix by vortexing or by pipetting up and down several times. Note: It is important that the sample and Binding Buffer C are mixed vigorously to obtain a homogeneous solution.
1.4	Pipet the sample to a spin column placed in a collection tube. Close the cap and centrifuge at 10,000 x g for 1 min. Note: If the solution has not completely passed through the spin column, centrifuge again at a higher speed or prolong the centrifugation.
1.5	Discard the collection tube and place the spin column in a new collection tube.
1.6	Add 500 µl Wash Buffer C and centrifuge at 10,000 x g for 1 min. Discard the collection tube and place the spin column in a new collection tube.
1.7	Add 650 µl Wash Buffer D and centrifuge at 10,000 x g for 1 min. Discard the collection tube and place the spin column in a new collection tube.
1.8	Repeat wash step once more. Discard the collection tube and place the spin column in a new collection tube.

1.9	Centrifuge at 10,000 x g for 5 min to remove all traces of ethanol. Discard the collection tube and place the spin column in a new 1.5 ml tube.
1.10	Add 60 μl of pre-heated RNAse-free water and incubate at room temperature for 2 min.
1.11	Centrifuge at 8000 x g for 1 min. A second elution step will increase the yield of extracted DNA/RNA. Note: The viral DNA/RNA can be eluted with a lower or a higher volume of RNAse-free water (depends on the expected yield of DNA/RNA). Elution with lower volumes of RNAse-free water will increase the final concentration of viral DNA/RNA. Store the viral DNA/RNA at 4 °C or at –20 °C for long time storage.

Protocol 2: Isolation of viral DNA/RNA from fluids up to 400µl

⇒ Prepare Lysis Buffer B/Carrier Reagent mix as described.
⇒ Reconstitute Wash Buffers C and D.
⇒ Set the heat block to 70 °C. Equilibrate the needed volume of RNAse-free water at 70°C

2.1	Pipette 400 µl of the Lysis Buffer B/Carrier Reagent mix into a 2 ml reaction tube. Add 400 µl of the sample and 20 µl of Proteinase K. Mix thoroughly by pulsed vortexing for 10 sec.
2.2	Incubate at 70 °C for 10 min. We recommend the use of a thermomixer for a permanent shaking of the sample. Alternatively, vortex the sample 3 to 4 times during the incubation.
2.3	Spin down the sample and add 800 µl of Binding Buffer C to the lysate. Mix by vortexing or by pipetting up and down several times. Note: It is important that the sample and Binding Buffer C are mixed vigorously to obtain a homogeneous solution.
2.4	Pipet the sample to a spin column placed in a collection tube. Close the cap and centrifuge at 10,000 x g for 1 min. Note: If the solution has not completely passed through the spin column, centrifuge again at a higher speed or prolong the centrifugation.
2.5	Discard the collection tube and place the spin column in a new collection tube.
2.6	Add 500 µl Wash Buffer C and centrifuge at 10,000 x g for 1 min. Discard the collection tube and place the spin column in a new collection tube.
2.7	Add 650 µl Wash Buffer D and centrifuge at 10,000 x g for 1 min. Discard the collection tube and place the spin column in a new collection tube.
2.8	Repeat wash step once more. Discard the collection tube and place the spin column in a new collection tube.

2.9	Centrifuge at 10,000 x g for 5 min to remove all traces of ethanol. Discard the collection tube and place the spin column in a new 1.5 ml tube.
2.10	Add 60 μl of pre-heated RNAse-free water and incubate at room temperature for 2 min.
2.11	Centrifuge at 8000 x g for 1 min. A second elution step will increase the yield of extracted DNA/RNA. Note: The viral DNA/RNA can be eluted with a lower or a higher volume of RNAse-free water (depends on the expected yield of DNA/RNA). Elution with lower volumes of RNAse-free water will increase the final concentration of viral DNA/RNA. Store the viral DNA/RNA at 4 °C or at –20 °C for long time storage.

Protocol 3: Isolation of viral DNA/RNA from tissue/biopsy material (max. 20 mg)

⇒ Prepare Lysis Buffer B/Carrier Reagent mix as described.
⇒ Reconstitute Wash Buffers C and D.
⇒ Set the heat block to 70 °C. Equilibrate the needed volume of RNAse-free water at 70°C

3.1	Cut up to 20 mg of the sample into small pieces. Place the sample into PBS or RNAse-free water at a proportion of 1 to 10 (w/v). Homogenise the sample with an appropriate tool (e.g. bead homogenizer).
3.2	Centrifuge the homogenized suspension at max. speed for 2 min to pellet any particles. Use the supernatant for the following steps.
3.3	Pipette 200 µl of the Lysis Buffer B/Carrier Reagent mix into a 2 ml reaction tube. Add 200 µl of the sample and 20 µl of Proteinase K. Mix thoroughly by pulsed vortexing for 10 sec.
3.4	Incubate at 70 °C for 10 min. We recommend the use of a thermomixer for a permanent shaking of the sample. Alternatively, vortex the sample 3 to 4 times during the incubation.
3.5	Spin down the sample and add 400 µl of Binding Buffer C to the lysate. Mix by vortexing or by pipetting up and down several times. Note: It is important that the sample and Binding Buffer C are mixed vigorously to obtain a homogeneous solution.
3.6	Pipet the sample to a spin column placed in a collection tube. Close the cap and centrifuge at 10,000 x g for 1 min. Note: If the solution has not completely passed through the spin column, centrifuge again at a higher speed or prolong the centrifugation.
3.7	Discard the collection tube and place the spin column in a new collection tube.
3.8	Add 500 µl Wash Buffer C and centrifuge at 10,000 x g for 1 min. Discard the collection tube and place the spin column in a new collection tube.
3.9	Add 650 µl Wash Buffer D and centrifuge at 10,000 x g for 1 min. Discard the collection tube and place the spin column in a new collection tube.

3.10	Repeat wash step once more. Discard the collection tube and place the spin column in a new collection tube.
3.11	Centrifuge at 10,000 x g for 5 min to remove all traces of ethanol. Discard the collection tube and place the spin column in a new 1.5 ml tube.
3.12	Add 60 μl of pre-heated RNAse-free water and incubate at room temperature for 2 min.
3.13	Centrifuge at 8000 x g for 1 min. A second elution step will increase the yield of extracted DNA/RNA. Note: The viral DNA/RNA can be eluted with a lower or a higher volume of RNAse-free water (depends on the expected yield of DNA/RNA). Elution with lower volumes of RNAse-free water will increase the final concentration of viral DNA/RNA. Store the viral DNA/RNA at 4 °C or at –20 °C for long time storage.

Protocol 4: Isolation of viral DNA/RNA from swab material

⇒ Prepare Lysis Buffer B/Carrier Reagent mix as described.
⇒ Reconstitute Wash Buffers C and D.
⇒ Set the heat block to 70 °C. Equilibrate the needed volume of RNAse-free water at 70°C

4.1	Place the swab into a 1.5 ml reaction tube containing PBS solution. Incubate at room temperature for 15 min. Stir the swab vigorously and remove the swab. Ensure to squeeze the swab to keep the liquid. Proceed with 200 μl of the (particle-free) liquid.
4.2	Pipette 200 μl of the Lysis Buffer B/Carrier Reagent mix into a 2 ml reaction tube. Add 200 μl of the sample and 20 μl of Proteinase K. Mix thoroughly by pulsed vortexing for 10 sec.
4.3	Incubate at 70 °C for 10 min. We recommend the use of a thermomixer for a permanent shaking of the sample. Alternatively, vortex the sample 3 to 4 times during the incubation.
4.4	Spin down the sample and add 400 μl of Binding Buffer C to the lysate. Mix by vortexing or by pipetting up and down several times. Note: It is important that the sample and Binding Buffer C are mixed vigorously to obtain a homogeneous solution.
4.5	Pipet the sample to a spin column placed in a collection tube. Close the cap and centrifuge at 10,000 x g for 1 min. Note: If the solution has not completely passed through the spin column, centrifuge again at a higher speed or prolong the centrifugation.
4.6	Discard the collection tube and place the spin column in a new collection tube.
4.7	Add 500 μl Wash Buffer C and centrifuge at 10,000 x g for 1 min. Discard the collection tube and place the spin column in a new collection tube.
4.8	Add 650 μl Wash Buffer D and centrifuge at 10,000 x g for 1 min. Discard the collection tube and place the spin column in a new collection tube.
4.9	Repeat wash step once more. Discard the collection tube and place the spin column in a new collection tube.

4.10	Centrifuge at 10,000 x g for 5 min to remove all traces of ethanol. Discard the collection tube and place the spin column in a new 1.5 ml tube.
4.11	Add 60 µl of pre-heated RNAse-free water and incubate at room temperature for 2 min.
4.12	Centrifuge at 8000 x g for 1 min. A second elution step will increase the yield of extracted DNA/RNA. Note: The viral DNA/RNA can be eluted with a lower or a higher volume of RNAse-free water (depends on the expected yield of DNA/RNA). Elution with lower volumes of RNAse-free water will increase the final concentration of viral DNA/RNA. Store the viral DNA/RNA at 4 °C or at –20 °C for long time storage.

APPENDIX

Limited Product Warranty

This warranty limits our liability for replacement of this product. No warranties of any kind, express or implied, including, without limitation, implied warranties of merchantability or fitness for a particular purpose, are provided. Minerva Biolabs shall have no liability for any direct, indirect, consequential, or incidental damages arising from the use, the results of use, or the inability to use this product.

RELATED PRODUCTS

ExtractNow™

The excellent way to isolate nucleic acid. System for quantitative detection of water pathogens. Kits for purifying nucleic acids from a variety of samples.
Find the optimized kit for your research needs.

ExtractNow™ Kit	Description	Package Size	Cat.-No.
DNA Mini Kit	Universally applicable DNA extraction method for a broad range of starting materials. Using a cutting-edge chemistry, the duration of the DNA purification is reduced to a minimum.	10 extractions 50 extractions	601-1010 601-1050
Blood DNA Mini Kit	Direct and rapid isolation of genomic DNA from whole blood up to 400 μl. High yields of up to 30 μg and extremely high-quality gDNA, depending on the sample and the amount used. There are two protocols available: < 200 μl and up to 400 μl blood samples Tested for EDTA and citrate stabilized and for fresh or frozen blood sample (including long time storage)	10 extractions 50 extractions	602-1010 602-1050
RNA Mini Kit	Purification of total RNA from eukaryotic and microbial materials. Prefiltration to selectively remove genomic DNA with no DNase digestion.	10 extractions 50 extractions	603-1010 603-1050
CleanUp Kit	Combination kit for fast extraction of DNA fragments from agarose gels or amplification products from PCR reaction mixtures. Flexible elution volumes between 30 and 50 μl and 10 to 20 μl. High recovery rates of up to 95 %. Capable of processing fragment lengths of up to 30 kb.	10 extractions 50 extractions	604-1010 604-1050
Plasmid Mini Kit	Easy and quick plasmid isolation from bacterial lysis.	10 extractions 50 extractions	605-1010 605-1050
Virus DNA/RNA Kit	Simultaneous isolation of viral DNA and RNA from a variety of starting materials. Extraction method based on the use of Spin Filters. Optimum removal of inhibitors ensures trouble-free use of nucleic acids in subsequent applications. Recommended for samples with unknown viruses. Includes Carrier Mix with internal DNA and RNA extraction control.	10 extractions 50 extractions	606-1010 606-1050

All kits for research use only. Not recommended for clinical applications.

RELATED PRODUCTS

Meat ID™

Identification of animal species
in meat and other foods by qPCR

Background

The identification of different meats in especially minced meat products is a serious task in food safety and ethical perspective, especially for muslims. Authentication of forbidden or none declared ingredients such as pork or substandard meat is essential to ensure confidence in the supply chain and regulatory compliance. Meat ID is available for rapid and reliable analysis from various matrices including raw, or even highly processed and cooked meat products where the DNA may be significantly degraded. It is possible to identify relevant species down to a threshold level of 0.5% with a semi-quantitative result.

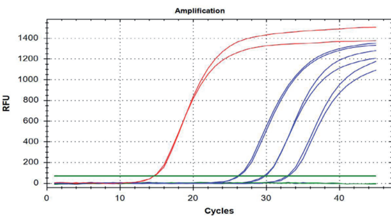
Features

Principle	The assay is based on the TaqMan® principle and worked with FAM and HEX labled probes.
Target	The target sequence is a mitochondrial multi-copy gene (cytochrome b). Therefore, even very small amounts of DNA can lead to positive results.
Sensitivity	1 Genom Unit/PCR, □ 10 DNA copies/PCR
Content	Master Mix, freeze-dried Primer Probe Mix, freeze-dried Rehydration Buffer PCR Grade Water Internal Control Positiv Control
Sample Requirements	The DNA can be isolated from sample materials either by using an extraction kit designed to isolate gDNA e.g. ExtractNowTM DNA Mini Kit or by an in-house method.
Intended Use	For research only! Not for use in diagnostic procedures.
Time to Result	90 minutes
Storage	Components are maintainable at +2 to +8 °C. After rehydratisation the reagents must be stored at -18 °C.
Real Time Cycler	• qTOWER (Analytik Jena) • TOptical (Analytik Jena) • Rotor-Gene® Q (Qiagen GmbH) • LightCycler® (Roche Diagnostic GmbH) • Mastercycler® ep realplex (Eppendorf) • CFX ConnectTM (Bio-Rad) • Amplifa (Illumina ECO) • StepOnePlus™ (Applied Biosystems)

RELATED PRODUCTS

Food Control™ qPCR

Detect foodborne pathogens with easy interpretable lateral flow evaluation.



Features	
Target	• Salmonella enterica – invasion protein (invA) gene • Yersinia enterocolitica – heat-stable enterotoxin A gene • Shigella spp. – invasion plasmid antigen (ipaH6) gene • Campylobacter spp. – acyl-[acyl-carrier-protein]--UDP-N-acetylglucosamine O-acyltransferase (lpxA) gene • Clostridium perfringens – phospholipase C alpha toxin (plc) gene • Shiga Toxin 1 – stx1 gene • Shiga Toxin 2 – stx2 gene • Escherichia coli O157 – wbdR gene • Escherichia coli O104 – wckD gene • Listeria spp. – invasion associated protein p60 (iap) gene • Listeria monocytogenes – listeriolysin O (hly) gene • Salmonella spp. – spacer-region between 16S and 23S RNA genes
Sensitivity	Down to 10 DNA copies/assay.
Principle	TaqMan® assay based on FAM and HEX labeled probes.
Content	qPCR Mix Species Mix Rehydration Buffer PCR Grade Water Internal Control Positive Control
Sample Requirements	Isolated total DNA from potentially contaminated food serves here as starting material, typically after pre-cultivation of the sample growth medium.
Intended Use **Time to Result**	For research use only! 150 minutes
Cycler	• qTOWER (Analytik Jena) • TOptical (Analytik Jena) • Rotor-Gene® (Qiagen) • Rotor-Gene®6000 (Qiagen) • LightCycler® (Roche Diagnostics) • Mastercycler® ep realplex (Eppendorf) • CFX Connect™ (Bio-Rad) • StepOnePlus™, ABI 7500 (Applied Biosystem®) • Mx3005P (Agilent Technologies)

Related Products

DNA Extraction kits

56-1010/1050/1200	Venor®GeM Sample Preparation Kit	10/50/200 extractions
56-2096	Venor®GeM Sample Preparation Kit - IP C16	96 extractions
601-1010/1050/1200	ExtractNow™ DNA Mini Kit	10/50/200 extractions
602-1010/1050/1200	ExtractNow™ Blood DNA Mini kit	10/50/200 extractions
603-1010/1050/1200	ExtractNow™ RNA Mini kit	10/50/200 extractions
604-1010/1050/1200	ExtractNow™ Cleanup kit	10/50/200 extractions
605-1010/1050/1200	ExtractNow™ Plasmid Mini kit	10/50/200 extractions
606-1010/1050/1200	ExtractNow™ Virus DNA/RNA kit	10/50/200 extractions

MB *Taq* DNA Polymerase

53-0050/0100/0200/0250	MB *Taq* DNA Polymerase (5 U/µl)	50/100/200/250 units
53-1050/1100/1200/1250	MB *Taq* DNA Polymerase (1 U/µl)	50/100/200/250 units

Contamination Control PCR kits

11-1025/1050/1100/1250	Venor®GeM Classic Mycoplasma Detection Kit	25/50/100/250 tests
11-7024/7048/7096/7240	Venor®GeM Advance Mycoplasma Detection Kit	24/48/96/240 tests
11-8025/8050/8100/8250	Venor®GeM OneStep Mycoplasma Detection Kit	25/50/100/250 tests
12-1025/1050/1100/1250	Onar® Bacteria Detection Kit	25/50/100/250 tests
11-9025/9100/9250	Venor®GeM qEP Mycoplasma Detection Kit	25/100/250 tests

Mycoplasma Elimination

10-0200/0500/1000	Mynox® Mycoplasma Elimination Reagent	2/5/10 treatments
10-0201/0501/1001	Mynox® Gold Mycoplasma Elimination Reagent	2/5/10 treatments

PCR Quantification Standards, 1x10^{8} genomes / vial

52-0112	*Mycoplasma orale*
52-0115	*Mycoplasma gallisepticum*
52-0116	*Acholeplasma laidlawii*
52-0117	*Mycoplasma fermentans*
52-0119	*Mycoplasma pneumonia*
52-0124	*Mycoplasma synoviae*
52-0129	*Mycoplasma arginini*
52-0130	*Mycoplasma hyorhinis*
52-0164	*Spiroplasma citri*

See Minerva homepage for further available species

PCR Clean™ (formerly DNA Remover™)

15-2025/2200	DNA/RNA Decontamination Reagent, spray bottle/refill bottles	250 ml/4x 500 ml
15-2201	Wipes	120 wipes in a dispenser box
15-2202	Wipes, refill packs	5 x 120 wipes in a bag
15-2203	Wipes, single wrapped	30 wipes

Mycoplasma Off™

15-1000	Surface Disinfectant Spray, spray bottle	1000 ml
15-5000	Surface Disinfectant Spray, refill bottles	5 x 1000 ml
15-1001	Surface Disinfectant Wipes in dispenser box	120 wipes
15-5001	Surface Disinfectant Wipes, refill pack	5 x 120 wipes
15-1030	Wipes, single wrapped	30 sachets

ZellShield™

13-0050/0150	Contamination Prevention Reagent 100x concentrate	1000 ml/ 5 x 1000 ml

WaterShield™

15-3025/3075	Water Disinfection Additive for incubators and water baths 200x concentrate	30 x 5 ml/500 ml

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