

PrepMan™ Ultra Sample Preparation Reagent

USER GUIDE

Catalog Number 4318930

Publication Number 4367554

Revision D



Manufacturer: Thermo Fisher Scientific | 7 Kingsland Grange | Warrington, Cheshire WA1 4SR | United Kingdom

The information in this guide is subject to change without notice.

DISCLAIMER: TO THE EXTENT ALLOWED BY LAW, LIFE TECHNOLOGIES AND/OR ITS AFFILIATE(S) WILL NOT BE LIABLE FOR SPECIAL, INCIDENTAL, INDIRECT, PUNITIVE, MULTIPLE, OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH OR ARISING FROM THIS DOCUMENT, INCLUDING YOUR USE OF IT.

Revision history: Pub. No. 4367554 (English)

Revision	Date	Description
D	17 April 2018	Updated template, legal, and contact information.
C	20 Oct 2017	Baseline for this revision history.

Important Licensing Information: These products may be covered by one or more Limited Use Label Licenses. By use of these products, you accept the terms and conditions of all applicable Limited Use Label Licenses.

TRADEMARKS: All trademarks are the property of Thermo Fisher Scientific and its subsidiaries unless otherwise specified.

©2018 Thermo Fisher Scientific Inc. All rights reserved.

Contents

■	CHAPTER 1	Product information	5
		Product description	5
		Contents and storage	5
		Required materials not supplied	6
		Prevent contamination	7
		Good laboratory practices for PCR	7
■	CHAPTER 2	Prepare and extract samples for bacterial and fungal testing	8
		Workflow	8
		Before each use of the kit	8
		Shake the PrepMan™ reagent	8
		Prepare the sample tubes	8
		Culture plate samples	8
		Culture broth samples	9
■	CHAPTER 3	Prepare and extract food samples for pathogen testing	11
		Workflow	11
		Before each use of the kit	11
		Shake the PrepMan™ reagent	11
		Prepare the sample tubes	11
		Prepare and extract a food sample	12
■	CHAPTER 4	Prepare and extract food samples for GMO testing	14
		Workflow	14
		Before each use of the kit	14
		Shake the PrepMan™ reagent	14
		Prepare the sample tubes	15
		Prepare food samples and obtain reference materials	15
		Prepare and extract a food test sample	15

■	APPENDIX A	Troubleshooting	16
■	APPENDIX B	<i>(Optional)</i> Filtration methods for separating fine particulates	17
		Separate with a disposable funnel	17
		Separate with a Whatman™ cartridge tube	17
■	APPENDIX C	Filtration methods for gross particulates	19
		Sedimentation method	19
■	APPENDIX D	Additional procedures to remove PCR inhibitors	20
		Serially dilute the sample	20
		Precipitate nucleic acids	20
		Perform spin column purification	21
■	APPENDIX E	Safety	22
		Chemical safety	23
		Biological hazard safety	24
		Documentation and support	25
		Related documentation	25
		Customer and technical support	25
		Limited product warranty	26



Product information

IMPORTANT! Before using this product, read and understand the information in the “Safety” appendix in this document.

Product description

PrepMan™ Ultra Sample Preparation Reagent provides a simple way to prepare DNA from a wide range of sample types including:

- Processed foods and their ingredients
- Bacteria
- Fungi
- Mammalian tissue smears
- Hair
- Human cells (buccal swab)
- Whole blood
- Plasmid preparations

Gram-positive and Gram-negative bacteria were successfully tested with PrepMan™ Ultra Sample Preparation Reagent as were meat, dairy, egg, and seafood samples.

Genomic DNA that is extracted from foodborne pathogens can then be detected using the Applied Biosystems™ TaqMan® Pathogen Detection kits.

Contents and storage

PrepMan™ Ultra Sample Preparation Reagent (Cat. No. 4318930)

- Number of preparations: 50–200
- Volume: 20 mL
- Storage: Room temperature, 15–25°C

Required materials not supplied

Item	Source
Equipment	
Block heater, 100°C	MLS
Vortex or equivalent	MLS
Pipettors: <ul style="list-style-type: none"> • Positive-displacement • Air-displacement • Multichannel 	MLS
Microcentrifuge	MLS
Consumables	
Pipette tips, aerosol-resistant	MLS
MicroSEQ™ ID Sequencing Clean-up Cartridges	4408228
(Optional) Microcentrifuge Tube Filter (pore size 10- μ m) ^[1]	Whatman 6838-0002
(Optional) Disposable transfer pipette	202-20S, or other MLS
Disposable gloves	MLS
Nonstick, RNase-free Microfuge Tubes 1.5-mL or 2-mL	AM12450, 1.5-mL AM12475, 2.0-mL
Reagents	
Nuclease-Free Water (not DEPC treated)	4387936

^[1] Required for "Separate with a Whatman™ cartridge tube" on page 17.

Prevent contamination

- Perform the enrichment steps, when appropriate, and PCR setup in separate areas.
- Do not pipette directly out of the PrepMan™ Ultra Sample Preparation Reagent bottle into the sample tubes.
- When pipetting PrepMan™ Ultra Sample Preparation Reagent into each sample, change pipette tips between tubes.
- To prevent contamination of the thermal cycler surface, do not heat samples in a thermal cycler.

Good laboratory practices for PCR

To avoid amplicon contamination of samples, follow these guidelines when preparing or handling samples for PCR amplification:

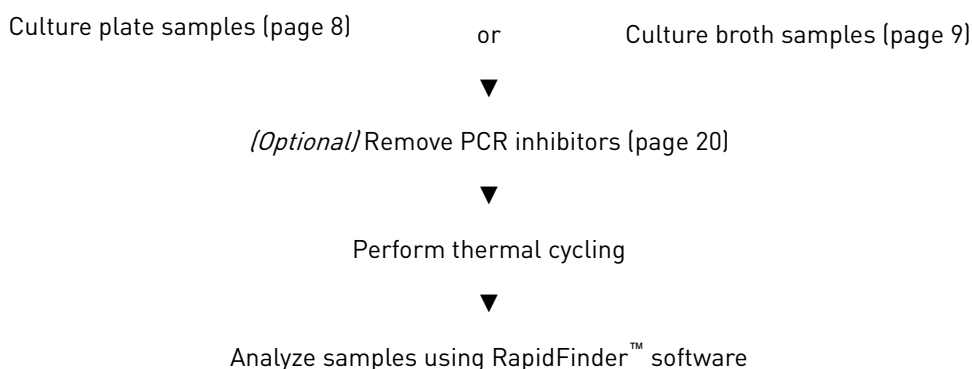
- Wear clean gloves and a clean lab coat (not previously worn while handling amplified products or used during sample preparation).
- Change gloves whenever you suspect that they are contaminated.
- Maintain separate areas and dedicated equipment and supplies for:
 - Sample preparation and reaction setup.
 - Amplification and analysis of products.
- Do not bring amplified products into the reaction setup area.
- Open and close all sample tubes carefully. Avoid splashing or spraying samples.
- Keep reactions and components capped as much as possible.
- Use a positive-displacement pipettor or aerosol-resistant barrier pipette tips.
- Do not open reaction tubes after PCR.
- Do not autoclave reaction tubes after PCR.
- Clean lab benches and equipment periodically with 10% bleach solution or DNAZap™ Solutions (Cat. No. AM9890).

For additional information, refer to EN ISO 22174:2005.

2

Prepare and extract samples for bacterial and fungal testing

Workflow



Before each use of the kit

Shake the PrepMan™ reagent

IMPORTANT! Shake the PrepMan™ Ultra Sample Preparation Reagent well, then let the reagent settle until all the bubbles have disappeared.

Prepare the sample tubes

- Label two sets of microcentrifuge screw-cap sample tubes.
- Open the caps of all your sample tubes.
- Prepare a positive control tube if needed.

Culture plate samples

1. Using 100 µL per sample and a sterile pipette, transfer the appropriate quantity of PrepMan™ Ultra Sample Preparation Reagent into a 50-mL sterile conical tube or other sterile container.
2. Aseptically dispense 100 µL of the PrepMan™ Ultra Sample Preparation Reagent into the appropriate microcentrifuge screw-cap tube.
3. Using an isolated colony, select a small loopful of cells or the edge of filamentous fungi colony on a culture plate.

Note: The ideal colony size is 1–2 mm for bacteria and yeast and 3 mm for filamentous fungi.

4. Suspend the cells in 100 μ L of PrepMan™ Ultra Sample Preparation Reagent in the appropriate microcentrifuge screw-cap tube.
5. Tightly cap the tubes, then vigorously vortex the sample for 10–30 seconds.
6. Place the microcentrifuge screw-cap tubes in a heat block set to 95–100°C for 10 minutes.
7. Remove the sample tubes from the heat block and allow the tubes to cool to room temperature for 2 minutes.
8. Spin the tubes in the microcentrifuge at the highest speed for 2 minutes.
9. Transfer 50 μ L of the supernatant from the spin tubes into a second set of labeled-microcentrifuge screw-cap tubes and discard the remaining supernatant. Use 5 μ L of supernatant per assay reaction.

Note:

1. If the sample supernatant is covered with a layer of lipid or other debris, collect clear supernatant from the center of the supernatant phase.
2. If the sample is colored or cloudy, there may be PCR inhibitors present. To help reduce the potential inhibitory effects of the sample, we recommend diluting your sample minimally 1:10 before thermal cycling or see Appendix D, “Additional procedures to remove PCR inhibitors”.
3. When the supernatant is not in use, we recommend storing it at 4°C for one month or freezing at –20°C indefinitely. Before use, thaw, then vortex and centrifuge the stored supernatant.

The supernatant is ready for PCR. Use 5 μ L of supernatant per PCR reaction.



Possible stopping point

The supernatant can be stored at 4°C for up to 1 month.

10. Amplify your samples using the appropriate thermal cycling protocol.

Culture broth samples

1. Using 100 μ L per reaction and a sterile pipette, transfer the appropriate quantity of PrepMan™ Ultra Sample Preparation Reagent into a 50-mL sterile conical tube or other sterile container.
2. Pipet 1 mL of culture broth containing bacteria or fungi into a new 2-mL or other appropriate microcentrifuge screw-cap tube that can be tightly closed.
3. Centrifuge the tubes in the microcentrifuge at maximum speed for 2 minutes.

4. Aspirate and discard the supernatant.

Note: Use a new pipette for each sample. Do not decant the sample.

IMPORTANT! Remove as much of the supernatant as possible without disturbing the pellet.

IMPORTANT! If there is a lipid layer at the top of the supernatant, draw off as much of the lipid layer as possible and discard it before removing the remainder of the supernatant with a new transfer pipette.

5. Using a 1-mL pipette, aseptically add 100 μ L of the PrepMan™ Ultra Sample Preparation Reagent into each tube.


IMPORTANT! Change pipette tips between tubes.

6. Tightly cap the tubes, then vigorously vortex the sample for 10–30 seconds.
7. Heat the tubes for 10 minutes at 100°C in a heat block.
8. Cool the tubes to room temperature for 2 minutes.
9. Centrifuge the tubes at maximum speed for 2 minutes.
10. Transfer 50 μ L of the supernatant into new labeled microcentrifuge screw-cap tubes and discard the remaining supernatant.

Note:

1. If the sample supernatant is covered with a layer of lipid or other debris, collect clear supernatant from the center of the supernatant phase.
2. If the sample is colored or cloudy, there may be PCR inhibitors present. To help reduce the potential inhibitory effects of the sample, we recommend diluting your sample minimally 1:10 before thermal cycling or see Appendix D, “Additional procedures to remove PCR inhibitors”.
3. When the supernatant is not in use, we recommend storing it at 4°C for one month or freezing at –20°C indefinitely. Before use, thaw, then vortex and centrifuge the stored supernatant.

The supernatant is ready for PCR. Use 5 μ L of supernatant per PCR reaction.

 Possible stopping point

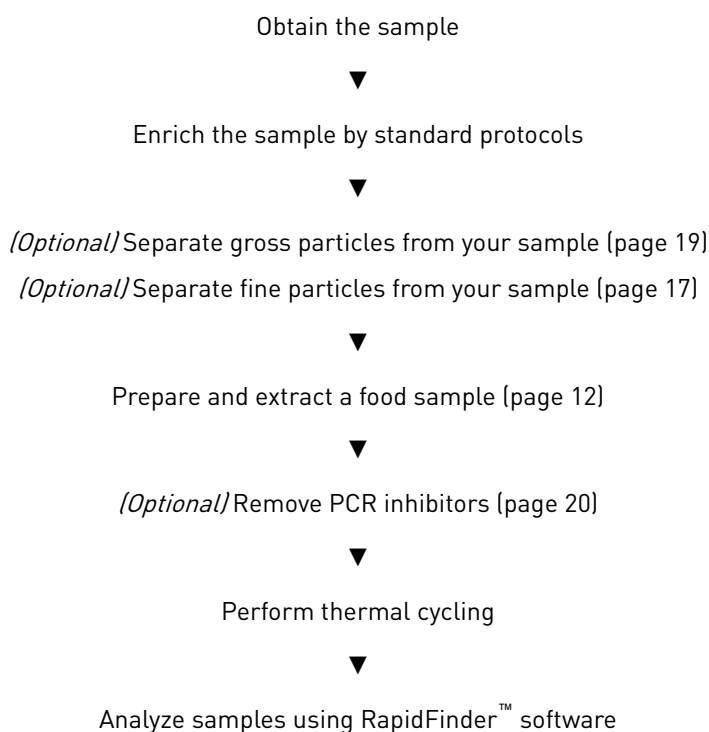
The supernatant can be stored at 4°C for up to 1 month.

11. Amplify your samples using the appropriate thermal cycling protocol.

3

Prepare and extract food samples for pathogen testing

Workflow



Before each use of the kit

Shake the PrepMan™ reagent

IMPORTANT! Shake the PrepMan™ Ultra Sample Preparation Reagent well, then let the reagent settle until all the bubbles have disappeared.

Prepare the sample tubes

- Label two sets of microcentrifuge screw-cap sample tubes.
- Open the caps of all your sample tubes.
- Prepare a positive control tube if needed.

Prepare and extract a food sample

1. Enrich the sample as determined by standard protocols. Follow the procedure suitable to your particular food or environmental sample type and the specific TaqMan® pathogen detection assay.
For example, in a homogenizer bag, combine 25 g of the food sample with 225 mL of the enrichment broth and grow overnight.
2. Using a pipettor suction device, transfer 1 mL of enriched culture into the 2-mL or other appropriate microcentrifuge screw-cap tube.
Note: Avoid transferring food debris from the enrichment broth into the microcentrifuge screw-cap tube, see Appendix C, “Filtration methods for gross particulates”.
3. Centrifuge the sample for 3 minutes at room temperature in a microcentrifuge at the highest speed to pellet bacteria and residual food or other debris.
4. Aspirate and discard the supernatant using a disposable transfer pipette.
Note: Use a new pipette for each sample. Do not decant the sample.

IMPORTANT! Remove as much of the supernatant as possible without disturbing the pellet.

IMPORTANT! If there is a lipid layer at the top of the supernatant, draw off as much of the lipid layer as possible and discard it before removing the remainder of the supernatant with a new transfer pipette.


5. Using 100 µL per reaction and a sterile pipette, transfer the appropriate quantity of PrepMan™ Ultra Sample Preparation Reagent into a 50-mL conical tube or other sterile container.
6. Using a 1-mL pipette, aseptically add 100 µL of the PrepMan™ Ultra Sample Preparation Reagent into the tube containing the sample.
7. Tightly cap the tubes, then vigorously vortex to resuspend the pellet.
8. Place the microcentrifuge screw-cap tubes in a heat block set to 100°C for 10 minutes.
9. Remove the sample tubes from the heat block and allow them to cool to room temperature for 2 minutes.
10. Spin the tubes in the microcentrifuge at 12,000 rpm for 2 minutes.

11. Transfer 50 μL of the supernatant from the spun tubes into a second set of labeled-microcentrifuge screw-cap tubes and discard the remaining supernatant. Use 5 μL of supernatant per assay reaction. This procedure requires a Performa™ DTR Gel Filtration Cartridge from Edge Biosystems (see “Required materials not supplied” on page 6).

Note:

1. If the sample supernatant is covered with a layer of lipid or other debris, collect clear supernatant from the center of the supernatant phase.
2. If the sample is colored or cloudy, there may be PCR inhibitors present. To help reduce the potential inhibitory effects of the sample, we recommend diluting your sample minimally 1:10 before thermal cycling or see Appendix D, “Additional procedures to remove PCR inhibitors”.
3. When the supernatant is not in use, we recommend storing it at 4°C for one month or freezing at -20°C indefinitely. Before use, thaw, then vortex and centrifuge the stored supernatant.

The supernatant is ready for PCR. Use 5 μL of supernatant per PCR reaction.

 Possible stopping point

The supernatant can be stored at 4°C for up to 1 month.

12. Amplify your samples using the appropriate thermal cycling protocol.

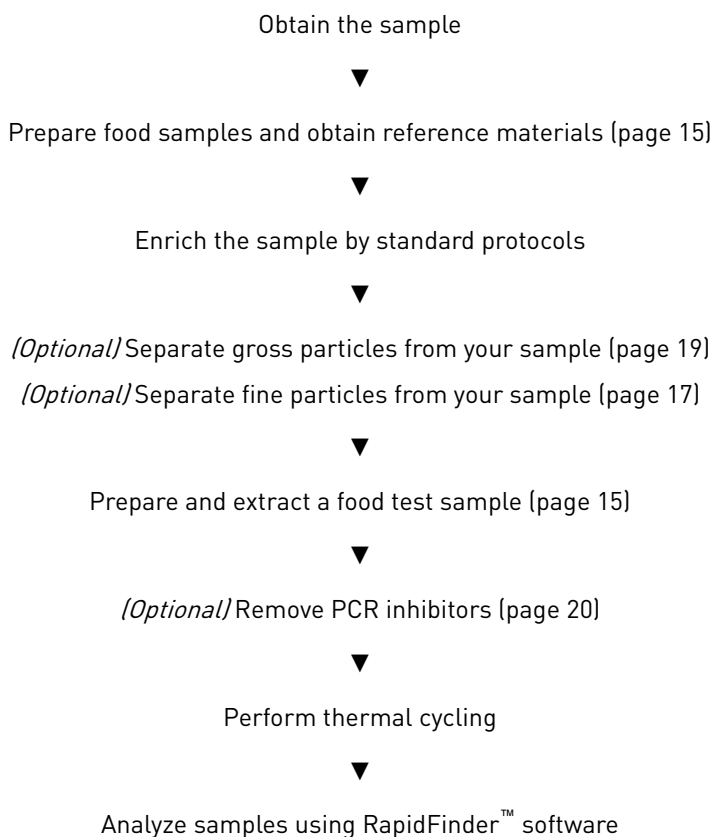


Prepare and extract food samples for GMO testing

This procedure can be used with these kits:

- TaqMan® GMO Soy 35S Detection Kit (Cat. No. 4327692)
- TaqMan® GMO Maize 35S Detection Kit (Cat. No. 4327693)

Workflow



Before each use of the kit

Shake the
PrepMan™ reagent

IMPORTANT! Shake the PrepMan™ Ultra Sample Preparation Reagent well, then let the reagent settle until all the bubbles have disappeared.

Prepare the sample tubes

- Label two sets of microcentrifuge screw-cap sample tubes.
- Open the caps of all your sample tubes.
- Prepare a positive control tube if needed.

Prepare food samples and obtain reference materials

The food sample must first be crushed or chopped into very fine grains. A powdered sample such as soy flour does not need processing, but solid samples such as whole soybean, whole maize kernels, and solid foods, do need this processing.

Certified standard reference materials that are made from genetically modified soy or maize, which are available from the Institute for Reference Materials and Measurements (IRMM), are supplied in powdered form and need no additional processing.

Prepare and extract a food test sample

1. Weigh 20 mg of each sample or concentration reference standard into a 2-mL or other appropriate screw-cap microcentrifuge screw-cap tube.
2. Using 400 μ L per reaction and a sterile pipette, transfer the appropriate quantity of PrepMan™ Ultra Sample Preparation Reagent into a 50-mL conical tube or other sterile container.
3. Using a 1-mL pipette, aseptically add 400 μ L of PrepMan™ Ultra Sample Preparation Reagent to each 20 mg sample.
4. Tightly cap the tubes, then vigorously vortex to resuspend the pellet.
5. Place the microcentrifuge screw-cap tubes in a heat block set to 100°C for 10 minutes.
6. Remove the sample tubes from the heat block and allow them to cool to room temperature for 2 minutes.
7. Spin the tubes in the microcentrifuge at 12,000 rpm for 2 minutes.
8. Transfer 50 μ L of the supernatant from the spun tubes into a second set of labeled-microcentrifuge screw-cap tubes and discard the remaining supernatant. Use 5 μ L of supernatant per assay reaction.

Note:

1. If the sample supernatant is covered with a layer of lipid or other debris, collect clear supernatant from the center of the supernatant phase.
2. If the sample is colored or cloudy, there may be PCR inhibitors present. To help reduce the potential inhibitory effects of the sample, we recommend diluting your sample minimally 1:10 before thermal cycling or see Appendix D, "Additional procedures to remove PCR inhibitors".
3. When the supernatant is not in use, we recommend storing it at 4°C for one month or freezing at -20°C indefinitely. Before use, thaw, then vortex and centrifuge the stored supernatant.

Amplify your samples using the appropriate thermal cycling protocol.



Troubleshooting

Observation	Possible cause	Recommended action
No PCR amplification of sample or sample is cloudy or contains color	Presence of PCR inhibitors or fluorescent contaminants.	Remove PCR inhibitors or contaminants by following one of the procedures listed here: <ul style="list-style-type: none">• Appendix D, “Additional procedures to remove PCR inhibitors”.• “Precipitate nucleic acids” on page 20.• “Perform spin column purification” on page 21.
Inconsistent results	Not enough PrepMan™ Ultra Sample Preparation Reagent used.	Redo analysis using correct amount of PrepMan™ Ultra Sample Preparation Reagent.
	Error in sample preparation.	Redo analysis using correct amount of PrepMan™ Ultra Sample Preparation Reagent.
	Incorrect thermal cycling parameters.	Refer to the thermal cycling protocol for the appropriate assay protocol.
A gel-like precipitate in the PrepMan™ Ultra Sample Preparation Reagent	Inappropriate storage or handling temperature for the reagent.	Continued usage of this reagent may lead to inconsistent results. Stop using the current batch and obtain new reagent.



(Optional) Filtration methods for separating fine particulates

- Separate with a disposable funnel 17
- Separate with a Whatman™ cartridge tube 17

Select one of the two procedures to separate fine, abundant, particulate (for example, cocoa, spices, or juice precipitates) from the enrichment medium.

Note that your choice of procedure determines whether or not you follow all or part of Chapter 3, “Prepare and extract food samples for pathogen testing”.

Separate with a disposable funnel

1. Mount a disposable funnel lined with a paper filter above a 15-mL disposable reagent tube.
2. Transfer approximately 10 mL of post-enrichment material into the filter and collect at least 2 mL of filtrate.

IMPORTANT! Dispose of the filter and funnel in a biohazard waste receptacle.

3. Transfer 1 mL of the collected filtrate into a 2-mL or other appropriate microcentrifuge screw-cap tube.
4. Proceed to “Prepare and extract a food sample” on page 12, and skip step 3.

Separate with a Whatman™ cartridge tube

1. Prepare the sample for filtration:
 - a. Remove the homogenizer bag from the incubator.

IMPORTANT! Make sure that the bag is tightly sealed to avoid spillage of biohazardous material during rocking.

 - b. Rock the bag from side-to-side to mix the contents of the bag.
 - c. Let the contents of the homogenizer bag stand on the bench top for at least 10 minutes while the debris settles to the bottom of the bag.

2. With the filter insert in the outer tube (supplied assembled), pipet approximately 0.5 mL of enriched material into the Whatman™ tube filter.

IMPORTANT! Do not touch membrane surface with the tip.

IMPORTANT! Dispose of pipette tips in biohazard waste.

3. Seal the tube using the tethered cap.
4. Centrifuge the tube.
 - a. Place the tube into a microcentrifuge, ensuring that the centrifuge is evenly balanced. Do not invert or tilt the tube.
 - b. Centrifuge the sample for 3 minutes at the highest speed, then open the cap and remove the filter insert.

Note: You may spin the tube for a longer time to ensure that most of the fluid has penetrated through the insert.
 - c. Dispose of the filter insert in a biohazard waste receptacle.

5. Using a disposable transfer pipette, carefully aspirate and discard the supernatant without disturbing the pellet at the bottom of the tube.

IMPORTANT! Dispose of the pipette and supernatant in a biohazard waste receptacle.

6. Transfer 100 µL of the PrepMan™ Ultra Sample Preparation Reagent into the tube containing the bacterial pellet.
7. Resuspend the pellet homogeneously by pipetting up and down.
8. Place the tube in a preheated block heater and heat it at 100°C for 10 minutes, then remove it from the heater and allow the tube to cool for 2 minutes.
9. Centrifuge the tube in the microcentrifuge at the highest speed for 3 minutes.
10. Transfer 50 µL of the supernatant from the spun tube into a second labeled microcentrifuge screw-cap tube and discard the remaining supernatant. Your samples should be clear and colorless.

Note: If the sample is colored or cloudy, there may be PCR inhibitors present. Dilute the sample at minimally 1:10 dilution using sterile, distilled water before proceeding to thermal cycling.

Amplify your samples using the appropriate thermal cycling protocol.



Filtration methods for gross particulates

Sedimentation method

If an enrichment sample contains gross particulates (such as ground meat), and the homogenizer bag does not have a mesh filter layer, let the contents of the homogenizer bag stand on the bench top for 5 minutes while the debris settles to the bottom of the bag. Then proceed to step 5 in “Prepare and extract a food sample” on page 12.



Additional procedures to remove PCR inhibitors

- Serially dilute the sample 20
- Precipitate nucleic acids 20
- Perform spin column purification 21

Note: Before performing these procedures, prepare samples as described in step 9 of “Culture plate samples” on page 8.

Serially dilute the sample

PCR inhibitors in the sample can be removed through dilution. The drawback of diluting the sample is that the actual target may be removed if it is present in low copy number.

Note: We recommend setting up small, incremental dilutions rather than initially diluting the sample in a large volume.

Prepare 10-fold serial dilutions of 1:10, 1:100, and 1:1,000. Do not exceed 1:1,000.

Precipitate nucleic acids

Precipitate Nucleic acids as an alternative method for removing PCR inhibitors.

1. Transfer 50 μ L of the sample extract into a fresh 1.5-mL microcentrifuge screw-cap tube.
2. Add 400 μ L of TE buffer.
3. Add 50 μ L of 3 M sodium acetate and vortex the tube.
4. Add 500 μ L of isopropanol and vortex the tube.
5. Let the sample stand at room temperature for at least 15 minutes.
6. Pellet the sample by spinning in a microcentrifuge at $13,000 \times g$ for 10 minutes at room temperature.
7. Decant the supernatant without disturbing the pellet and allow the pellet to air dry.



8. Resuspend the pellet in 50 μL of sterile distilled water.
9. Use 5 μL of the sample for PCR analysis.

Perform spin column purification

Spin column purification is an alternative method for removing PCR inhibitors. This procedure requires a Performa™ DTR Gel Filtration Cartridge from Edge Biosystems (see “Required materials not supplied” on page 6) and a slow-speed microcentrifuge.

1. Pack the column by placing the unit (cartridge and microtube) in a microcentrifuge and centrifuge at $750 \times g$ for 2 minutes.
2. Transfer the cartridge to a clean labeled microcentrifuge screw-cap tube.
3. Add 50 μL of the sample to the packed column. Make sure that fluid runs into the gel.
4. Close the cap and centrifuge for 2 minutes at $750 \times g$.
5. Retain the eluate, and remove and discard the cartridge.
6. Use 5 μL of the eluate for PCR analysis.



Safety



WARNING! GENERAL SAFETY. Using this product in a manner not specified in the user documentation may result in personal injury or damage to the instrument or device. Ensure that anyone using this product has received instructions in general safety practices for laboratories and the safety information provided in this document.

- Before using an instrument or device, read and understand the safety information provided in the user documentation provided by the manufacturer of the instrument or device.
 - Before handling chemicals, read and understand all applicable Safety Data Sheets (SDSs) and use appropriate personal protective equipment (gloves, gowns, eye protection, etc). To obtain SDSs, see the “Documentation and Support” section in this document.
-

Chemical safety



WARNING! GENERAL CHEMICAL HANDLING. To minimize hazards, ensure laboratory personnel read and practice the general safety guidelines for chemical usage, storage, and waste provided below. Consult the relevant SDS for specific precautions and instructions:

- Read and understand the Safety Data Sheets (SDSs) provided by the chemical manufacturer before you store, handle, or work with any chemicals or hazardous materials. To obtain SDSs, see the “Documentation and Support” section in this document.
- Minimize contact with chemicals. Wear appropriate personal protective equipment when handling chemicals (for example, safety glasses, gloves, or protective clothing).
- Minimize the inhalation of chemicals. Do not leave chemical containers open. Use only with adequate ventilation (for example, fume hood).
- Check regularly for chemical leaks or spills. If a leak or spill occurs, follow the manufacturer's cleanup procedures as recommended in the SDS.
- Handle chemical wastes in a fume hood.
- Ensure use of primary and secondary waste containers. (A primary waste container holds the immediate waste. A secondary container contains spills or leaks from the primary container. Both containers must be compatible with the waste material and meet federal, state, and local requirements for container storage.)
- After emptying a waste container, seal it with the cap provided.
- Characterize (by analysis if necessary) the waste generated by the particular applications, reagents, and substrates used in your laboratory.
- Ensure that the waste is stored, transferred, transported, and disposed of according to all local, state/provincial, and/or national regulations.
- **IMPORTANT!** Radioactive or biohazardous materials may require special handling, and disposal limitations may apply.

Biological hazard safety



WARNING! BIOHAZARD. Biological samples such as tissues, body fluids, infectious agents, and blood of humans and other animals have the potential to transmit infectious diseases. Conduct all work in properly equipped facilities with the appropriate safety equipment (for example, physical containment devices). Safety equipment can also include items for personal protection, such as gloves, coats, gowns, shoe covers, boots, respirators, face shields, safety glasses, or goggles. Individuals should be trained according to applicable regulatory and company/ institution requirements before working with potentially biohazardous materials. Follow all applicable local, state/provincial, and/or national regulations. The following references provide general guidelines when handling biological samples in laboratory environment.

- U.S. Department of Health and Human Services, *Biosafety in Microbiological and Biomedical Laboratories (BMBL)*, 5th Edition, HHS Publication No. (CDC) 21-1112, Revised December 2009; found at:
www.cdc.gov/biosafety/publications/bmbl5/BMBL.pdf
- World Health Organization, *Laboratory Biosafety Manual*, 3rd Edition, WHO/CDS/CSR/LYO/2004.11; found at:
www.who.int/csr/resources/publications/biosafety/Biosafety7.pdf

Documentation and support

Related documentation

Document	Publication number	Description
<i>PrepMan™ Ultra Sample Preparation Reagent Quick Reference</i>	4367551	For brief instructions on using the PrepMan™ Ultra Sample Preparation Reagent.
<i>RapidFinder™ Software v1.0/SDS Software v1.3.2 Installation User Bulletin</i>	4367395	For information on installing RapidFinder™ Software for pathogen detection.
<i>RapidFinder™ Software Version 1.0 Quick Reference</i>	4366739	For brief instructions on using RapidFinder™ software to analyze samples for pathogen detection.

Customer and technical support

Visit thermofisher.com/support for the latest in services and support, including:

- Worldwide contact telephone numbers
- Product support, including:
 - Product FAQs
 - Software, patches, and updates
 - Training for many applications and instruments
- Order and web support
- Product documentation, including:
 - User guides, manuals, and protocols
 - Certificates of Analysis
 - Safety Data Sheets (SDSs; also known as MSDSs)

Note: For SDSs for reagents and chemicals from other manufacturers, contact the manufacturer.

Limited product warranty

Life Technologies Corporation and/or its affiliate(s) warrant their products as set forth in the Life Technologies' General Terms and Conditions of Sale found on Life Technologies' website at **www.thermofisher.com/us/en/home/global/terms-and-conditions.html**. If you have any questions, please contact Life Technologies at **www.thermofisher.com/support**.

