TrueMark™ Pathogen Assays on TaqMan™ Array Plates

USER GUIDE

Catalog Numbers A56284C, A56286C, A56287C, A56288C, A56289C, A56290C, A56291C, A56292C, A56293C, A56294C

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For descriptions of symbols on product labels or product documents, go to thermofisher.com/symbols-definition.

Revision history: MAN0026671 C.0 (English)

Revision	Date	Description
C.0	9 December 2022	• The link for the template (EDT) files was removed in "Set up and run the real-time PCR instrument" on page 13. • The name of the TrueMark™ Respiratory I Plus Panel was updated throughout the User Guide.
B.0	15 November 2022	• Update was made to switch TrueMark™ Urinary II Plus Panel with TrueMark™ Urinary I Plus Panel in "In silico cross-reactivity" on page 15. • Update was made to the source of the MagMAX™ Viral/Pathogen II Nucleic Acid Isolation Kit in "Required materials and equipment not supplied" on page 8 and "Guidelines for isolating high-quality RNA or DNA" on page 11.
A.0	21 October 2022	New document for TrueMark™ Pathogen Assays on TaqMan™ Array Plates.

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

Contents

1 Product information

IMPORTANT! It is the responsibility of laboratories to design and validate their own experimental design and analysis parameters.

Product description

TrueMark™ Pathogen Assays on TaqMan™ Array Plates are a collection of duplex assays that detect microbes and an internal control in the same reaction.

TrueMark™ Pathogen Assays on TaqMan™ Array Plates are available as combination kits (see "Contents and storage" on page 5).

The following controls are used:

- Ribonuclease P (RNase P)—an endogenous sample collection control for the respiratory tract infection (RTI), sexually transmitted infection (STI), lesion, vaginal, and genital infection panels.
- *Bacillus atrophaeus* (TaqMan™ Universal Extraction Control Organism (*B. atrophaeus*))—a process control for the urinary tract infection (UTI) panels.

For a current list of available species and assays, contact your local sales representative.

The assays are designed for use in real-time PCR using a variety of compatible instruments (see Chapter 2, "Methods"). For detailed information about TrueMark™ Pathogen Assays on TaqMan™ Array Plates, see Appendix A, "Supplemental information".

Contents and storage

Note: For more information on combination kit panels, see "Related documentation" on page 22.

Table 1 TrueMark™ Respiratory I Plus Panel, Combo Kit (Cat. No. A56284C)

Component	REF[1] (box REF)	Quantity	Volume per tube	Storage
TrueMark™ Respiratory I Plus Panel	A56284	5 plate	—	15–30°C
TrueMark™ Infectious Disease Panels 1-Step Multiplex Master Mix (No ROX)	A56836	3 tubes	1 mL	–30°C to –5°C

[1] Individual components cannot be ordered separately.

Table 2 TrueMark™ Respiratory II Plus Panel, Combo Kit (Cat. No. A56286C)

Component	REF[1] (box REF)	Quantity	Volume per tube	Storage
TrueMark™ Respiratory II Plus Panel	A56286	5 plate	—	15–30°C
TrueMark™ Infectious Disease Panels 1-Step Multiplex Master Mix (No ROX)	A56836	3 tubes	1 mL	–30°C to –5°C

[1] Individual components cannot be ordered separately.

Table 3 TrueMark™ Respiratory III Plus Panel, Combo Kit (Cat. No. A56287C)

Component	REF[1] (box REF)	Quantity	Volume per tube	Storage
TrueMark™ Respiratory III Plus Panel	A56287	5 plate	—	15–30°C
TrueMark™ Infectious Disease Panels 1-Step Multiplex Master Mix (No ROX)	A56836	3 tubes	1 mL	–30°C to –5°C

[1] Individual components cannot be ordered separately.

Table 4 TrueMark™ Urinary I Plus Panel, Combo Kit (Cat. No. A56288C)

Component	REF[1] (box REF)	Quantity	Volume per tube	Storage
TrueMark™ Urinary I Plus Panel	A56288	5 plate	—	15–30°C
TrueMark™ Infectious Disease Panels 1-Step Multiplex Master Mix (No ROX)	A56836	3 tubes	1 mL	–30°C to –5°C

[1] Individual components cannot be ordered separately.

Table 5 TrueMark™ Urinary II Plus Panel, Combo Kit (Cat. No. A56289C)

Component	REF[1] (box REF)	Quantity	Volume per tube	Storage
TrueMark™ Urinary II Plus Panel	A56289	5 plate	—	15–30°C
TrueMark™ Infectious Disease Panels 1-Step Multiplex Master Mix (No ROX)	A56836	3 tubes	1 mL	–30°C to –5°C

[1] Individual components cannot be ordered separately.

Table 6 TrueMark™ Urinary III Plus Panel, Combo Kit (Cat. No. A56290C)

Component	REF[1] (box REF)	Quantity	Volume per tube	Storage
TrueMark™ Urinary III Plus Panel	A56290	5 plate	—	15–30°C
TrueMark™ Infectious Disease Panels 1-Step Multiplex Master Mix (No ROX)	A56836	3 tubes	1 mL	–30°C to –5°C

[1] Individual components cannot be ordered separately.

Table 7 TrueMark™ STI Plus Panel, Combo Kit (Cat. No. A56291C)

Component	REF[1] (box REF)	Quantity	Volume per tube	Storage
TrueMark™ STI Plus Panel	A56291	5 plate	—	15–30°C
TrueMark™ Infectious Disease Panels 1-Step Multiplex Master Mix (No ROX)	A56836	3 tubes	1 mL	–30°C to –5°C

[1] Individual components cannot be ordered separately.

Table 8 TrueMark™ Vaginal Plus Panel, Combo Kit (Cat. No. A56292C)

Component	REF[1] (box REF)	Quantity	Volume per tube	Storage
TrueMark™ Vaginal Plus Panel	A56292	5 plate	—	15–30°C
TrueMark™ Infectious Disease Panels 1-Step Multiplex Master Mix (No ROX)	A56836	3 tubes	1 mL	–30°C to –5°C

[1] Individual components cannot be ordered separately.

Table 9 TrueMark™ Lesion Plus Panel, Combo Kit (Cat. No. A56293C)

Component	REF[1] (box REF)	Quantity	Volume per tube	Storage
TrueMark™ Lesion Plus Panel	A56293	5 plate	—	15–30°C
TrueMark™ Infectious Disease Panels 1-Step Multiplex Master Mix (No ROX)	A56836	3 tubes	1 mL	–30°C to –5°C

[1] Individual components cannot be ordered separately.

Table 10 TrueMark™ Genital Plus Panel, Combo Kit (Cat. No. A56294C)

Component	REF[1] (box REF)	Quantity	Volume per tube	Storage
TrueMark™ Genital Plus Panel	A56294	5 plate	—	15–30°C
TrueMark™ Infectious Disease Panels 1-Step Multiplex Master Mix (No ROX)	A56836	3 tubes	1 mL	–30°C to –5°C

[1] Individual components cannot be ordered separately.

Required materials and equipment not supplied

Unless otherwise indicated, all materials are available through **thermofisher.com**. "MLS" indicates that the material is available from **fisherscientific.com** or another major laboratory supplier.

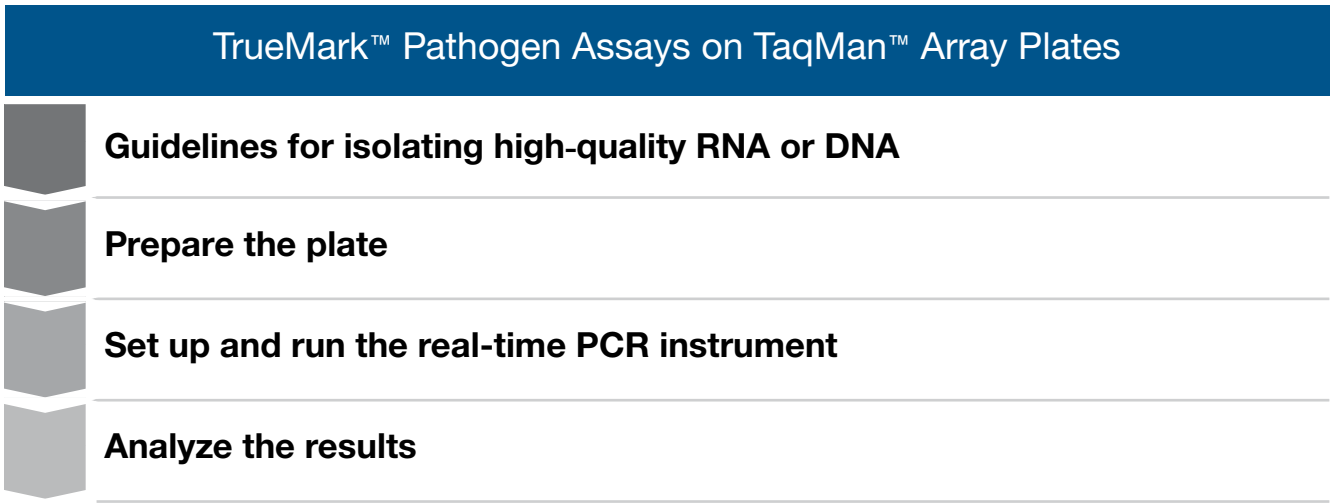
Item	Source
Recommended products for isolation of RNA/DNA (for panel specific recommendations, see "Guidelines for isolating high-quality RNA or DNA" on page 11	
MagMAX™ Viral/Pathogen Ultra Nucleic Acid Isolation Kit	A42356
MagMAX™ Viral/Pathogen Nucleic Acid Isolation Kit	A42352
MagMAX™ Viral/Pathogen II Nucleic Acid Isolation Kit	A48383R
Real-time PCR instrument, one of the following [1]:	
QuantStudio™ 5 Real-Time PCR System, 96-well, 0.2-mL block	Contact your local sales office
QuantStudio™ 5 Dx Real-Time PCR System, 96-well, 0.2-mL block	
QuantStudio™ 7 Pro Real-Time PCR System, 96-well, 0.2-mL block	
QuantStudio™ 7 Pro Dx Real-Time PCR System, 96-well, 0.2-mL block	
Software	
QuantStudio™ Design and Analysis v2.6	**thermofisher.com/qpcrsoftware**
QuantStudio™ Real-Time PCR Software	
Equipment	
Centrifuge, with adapter for 96-well plates	MLS
Microcentrifuge	MLS
Vortex mixer	MLS
(Optional) Digital Microplate Shaker	88882005 or 88882006
Pipettes	MLS
Reagents and consumables	
TaqMan™ Universal Extraction Control Organism (*B. atrophaeus*)	A39180
TrueMark™ Amplification Control	A55698
TrueMark™ Amplification Control I, low conc	A55699
Nuclease-free water	AM9930
PBS (1X), pH 7.4	10010023
MicroAmp™ Optical Adhesive Film	4311971

(continued)

Item	Source
MicroAmp™ Optical Film Compression Pad	4312639
Aerosol-resistant barrier pipette tips	MLS
Disposable gloves	MLS
Tubes, plates, and film	**thermofisher.com/plastics**

[1] The assays have been tested with the following instruments: QuantStudio™ 5 Real-Time PCR System, 96-well, 0.2-mL block and QuantStudio™ 5 Dx Real-Time PCR System, 96-well, 0.2-mL block.

Workflow


TrueMark™ Pathogen Assays on TaqMan™ Array Plates
Guidelines for isolating high-quality RNA or DNA
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Analyze the results

2 Methods

Guidelines for isolating high-quality RNA or DNA

The real-time PCR procedure requires 5 µL of extracted RNA or DNA per reaction.

For recommended RNA and DNA isolation kits for the listed panels, see table below:

Note: For UTI panels follow the spike-in process instructions (see "TaqMan™ Universal Extraction Control Organism (B. atrophaeus)" on page 18).

Panel	Recommended extraction kit
• TrueMark™ Respiratory I Plus Panel, Combo Kit—A56284C • TrueMark™ Respiratory II Plus Panel, Combo Kit—A56286C • TrueMark™ STI Plus Panel, Combo Kit—A56291C	One of the following: • MagMAX™ Viral/Pathogen Ultra Nucleic Acid Isolation Kit—A42356 • MagMAX™ Viral/Pathogen Nucleic Acid Isolation Kit—A42352 • MagMAX™ Viral/Pathogen II Nucleic Acid Isolation Kit—A48383R
• TrueMark™ Respiratory III Plus Panel, Combo Kit—A56287C • TrueMark™ Urinary I Plus Panel, Combo Kit—A56288C • TrueMark™ Urinary II Plus Panel, Combo Kit—A56289C • TrueMark™ Urinary III Plus Panel, Combo Kit—A56290C • TrueMark™ Vaginal Plus Panel, Combo Kit—A56292C • TrueMark™ Lesion Plus Panel, Combo Kit—A56293C • TrueMark™ Genital Plus Panel, Combo Kit—A56294C	MagMAX™ Viral/Pathogen Ultra Nucleic Acid Isolation Kit—A42356

For more information using isolation kits, see "Related documentation" on page 22.

Guidelines for real-time PCR

- Follow best practices when preparing or performing PCR (see page 18).
- Prepare the real-time PCR reactions in an area free of artificial templates and siRNA transfections. High-copy-number templates can easily contaminate the real-time PCR reactions.
- Configure run documents according to the instructions provided in the real-time PCR instrument user documents.
- To prevent contamination of the reagents and lab after PCR product amplification, do not remove the adhesive film from the plate.
- To prevent degradation, keep eluted sample nucleic acid, master mixes, assays, and controls on ice or in cold blocks while in use.
- Keep the plate protected from light and stored as indicated until ready for use. Excessive exposure to light may affect the fluorescent probes of the dried-down assays in the plate.
- Thaw the TrueMark™ Infectious Disease Panels 1-Step Multiplex Master Mix (No ROX) on ice.

Prepare the plate

1. Mix the TrueMark™ Infectious Disease Panels 1-Step Multiplex Master Mix (No ROX) by vortexing. Centrifuge briefly to collect the liquid at the bottom of the tube.

2. Prepare the appropriate volume of master mix and nuclease-free water as shown in the following table:

Table 11 96-well Standard (0.2-mL) plate

Component	Volumes[1]			
	1 well	8 wells	32 wells	96 wells
Master Mix (4X)	5 µL	45 µL	180 µL	540 µL
Nuclease-free water	10 µL	90 µL	360 µL	1080 µL
Total volume	**15 µL**	**135 µL**	**540 µL**	**1,620 µL**

[1] Volumes for multiple reactions include a 12.5% overage.

3. Remove the plate from its packaging, centrifuge at 2,000 x *g* for 2 minutes, then remove the plate cover.

Note: Label the plate once removed from packaging.

4. Add the prepared master mix and nuclease-free water to the appropriate wells of the plate according to Table 11.

Note: A Positive Control (PC) at 10,000 copies/reaction and Negative Extraction Control (NEC) is recommended for each assay.

5. Add 5 µL of extracted RNA or DNA to each reaction well of the plate.

   Note: 10 uL of the *Bacillus atrophaeus* (TaqMan™ Universal Extraction Control Organism (*B. atrophaeus*)) control is added to urine samples in each extraction well at the start of extraction.

6. Seal the plate with MicroAmp™ Optical Adhesive Film, then vortex each corner and center for approximately 10 seconds at maximum speed.

   Note: If resuspension of the assay is incomplete, repeat vortexing.

7. Centrifuge the plate at 1,400 x *g* for 2 minutes, to collect the contents at the bottom of the wells.

IMPORTANT! Run the plate immediately. If the plate is not ready to run, then store at 2–8°C for up to 2 hours.

Set up and run the real-time PCR instrument

See the appropriate instrument user guide for detailed instructions to program the thermal-cycling conditions and run the plate (“Related documentation” on page 22).

The template (EDT) file contains the settings for the instrument run and plate layout information. For access to EDTs, visit the product page.

Note: The instrument must be configured with the block appropriate for the plate type (96-well Standard, 0.2-mL block).

1. In the real-time PCR instrument settings, enter or confirm the following:
   - **Analysis type**: **Standard Curve**
   - **Run Mode**: **Standard**
   - **Passive Reference**: **None**
   - **Reaction Volume**: **20 µL**

2. Set up samples and targets on the real-time PCR instrument or software.

   Note: Ensure the target is in the FAM channel and the control in the JUN channel. Ensure the real-time PCR instrument is calibrated with the JUN channel.

3. Ensure the **Quencher** is set to **None**.

4. Set up the thermal cycling conditions for your instrument.

Table 12 TrueMark™ Infectious Disease Panels 1-Step Multiplex Master Mix (No ROX) (QuantStudio™ systems with standard cycling mode)

Step	Temperature	Ramp rate	Time	Number of cycles
UNG incubation	25°C	1.6°C per second	2 minutes	1
Reverse transcription	53°C		10 minutes	1
Preincubation	85°C		10 minutes	1
Activation	95°C		2 minutes	1
Denaturation	95°C		3 seconds	40
Anneal / extension	60°C		30 seconds	

5. Load the prepared plate into the real-time PCR instrument.

Note: When prompted, confirm that the **Passive Reference** is set to **None**.

6. *Perform the following step only when using a 0.2-mL block with the QuantStudio™ 5 Real-Time PCR System.* Place a MicroAmp™ Optical Film Compression Pad gray side down on the surface of the RT-PCR reaction plate, to ensure a proper seal between the thermal cycler and the adhesive film.

IMPORTANT!

- Be careful to place the compression pad with the brown side up and the gray side down, centered on top of the plate.
- Ensure the compression pad is free from wrinkles and signs of deterioration prior to use.
- Discard compression pad after 20 uses.

7. Start the run.

Analyze the results

Use QuantStudio™ Design and Analysis v2.6 for data analysis or export files directly from the instrument QuantStudio™ Real-Time PCR Software.

For more information about using the software, see “Related documentation” on page 22.

Note: For detailed information about data analysis, see the appropriate documentation for your instrument.

1. In the QuantStudio™ Design and Analysis v2.6 or QuantStudio™ Real-Time PCR Software home screen, open the data file (EDS).
2. In the open data file, click **Actions ▸ Save As**, then save the data file with a new name.

   Note: QuantStudio™ Design and Analysis v2.6 requires data files created on the following instruments to be saved as a new data file:
   - QuantStudio™ 5 Real-Time PCR System
   - QuantStudio™ 5 Dx Real-Time PCR System
3. In the analysis settings, select automatic baseline with a start cycle of 5 and an end cycle of auto, or select according to lab validation.
4. Set the appropriate threshold values for each target, as validated by your laboratory.

   IMPORTANT! Do not use automatic threshold values.
5. Determine C_q cutoff values for each target for samples and controls.

   Note: QuantStudio™ Design and Analysis Software v2 reports C_q values instead of C_t values. The C_q values are equivalent to C_t values.
6. Analyze results according to analysis, interpretation, and QC parameters, as validated by your laboratory.

Contact Support for more information.

In silico cross-reactivity

In silico cross-reactivity was observed for panels listed in the table below:

Panel	Organism	Cross-reactive target
TrueMark™ Respiratory I Plus Panel	Rhinovirus (RV)	Enterovirus (EV)
TrueMark™ Urinary I Plus Panel	Coagulase-negative *Staphylococci* (CONS)	*Staphylococcus aureus (S. aureus)*
TrueMark™ STI Plus Panel	*Ureaplasma parvum* (UP)	*Ureaplasma urealyticum* (UU)

Considerations for data analysis are listed below:

Species-specific assay	Considerations for data analysis
Enterovirus (EV) Rhinovirus (RV)	The RV assays detect both RV and EV strains whereas the EV assays are specific for EV strains. Thus enterovirus positive samples are detected by both EV and RV assays whereas rhinovirus positive samples are detected only by the RV assays.
Coagulase-negative *Staphylococci* (CONS)	The CONS assay detects both CONS and *S. aureus* strains whereas *S. aureus* assay is specific for *S. aureus* strains. Thus *S. aureus* samples are detected by both *S. aureus* and CONS assays whereas CONS positive samples are only detected by CONS assay.
Ureaplasma parvum (UP)	The UP assays detect both UP and UU strains whereas the UU assay is specific for UU strains. Thus UU positive samples are detected by both UP and UU assays whereas UP positive samples are detected only by the UP assays.

A Supplemental information

Optional controls

Positive and negative controls

The following controls are recommended for each assay:

Control	Description
One of the following amplification controls: • TrueMark™ Amplification Control, A55698 • TrueMark™ Amplification Control I, low conc, A55699	Is added to a single well per target in the real-time PCR plate. Monitors real-time PCR reaction setup and reagent integrity. Can be ordered seperately, which includes all the targets in the TrueMark™ panels. Can be diluted before adding to the PCR reactions. The recommended concentration for Positive Control is 10,000 copies/reaction.
Negative (extraction) control	A negative control on the extraction sample plate that contains water. The extracted negative control sample is run on the real-time PCR plate to monitor cross contamination of reagents during reaction setup.

TaqMan™ Universal Extraction Control Organism (*B. atrophaeus*)

TaqMan™ Universal Extraction Control Organism (*B. atrophaeus*) (Cat. No. A39180), contains three vials of lyophilized *Bacillus atrophaeus*, for use as a process control for cell lysis and nucleic acid recovery. This control is used with the proprietary TaqMan™ Assay for *Bacillus atrophaeus* sequences.

Like other gram-positive bacteria, *Bacillus atrophaeus* has thick cell walls that can be difficult to lyse. This characteristic makes *Bacillus atrophaeus* an ideal control to monitor the efficiency of cell lysis and subsequent nucleic acid recovery.

TaqMan™ Universal Extraction Control Organism (*B. atrophaeus*) is supplied lyophilized with a quantity of 1×10^9 copies/vial, and is reconstituted in 200 µL of PBS (1X), pH 7.4 to a final concentration 5×10^6 copies/µL.

The following *B. atrophaeus* dilution and the spike-in process instructions are recommended:

Vortex for 30 seconds, until the pellet is resuspended. Make the suitable number of aliquots and stored at –20°C fo up to 4 months. Perform further dilution to obtain the working concentration of 5×10^4 copies/µL.

Can be freeze-thawed up to 4 times.

Note: For the recommended extraction kit for UTI panels, see “Guidelines for isolating high-quality RNA or DNA” on page 11.

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10 uL of the control is added to urine samples in each extraction well at the start of extraction.

Refer to the extraction process associated with the UTI panels, see “Related documentation” on page 22.

Best practices for PCR and RT-PCR experiments

Good laboratory practices for PCR and RT-PCR

- Wear clean gloves and a clean lab coat.
  - Do not wear the same gloves and lab coat that you have previously used when handling amplified products or preparing samples.
- Change gloves if 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.
- Clean lab benches and equipment periodically with 10% bleach solution or DNA decontamination solution.

Detect fluorescent contaminants

Fluorescent contaminants can generate false positive results. To help detect these contaminants, we recommend including a no-amplification control reaction that contains sample, but no master mix.

After PCR, if the absolute fluorescence of the no-amplification control is greater than the fluorescence of the no template control (NTC), fluorescent contaminants may be present in the sample or in the heat block of the real-time PCR instrument.

B

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, and so on). To obtain SDSs, visit **thermofisher.com/support**.

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 sufficient ventilation (for example, fume hood).
- Check regularly for chemical leaks or spills. If a leak or spill occurs, follow the manufacturer 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 needed) 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.

- Laboratory biosafety manual, fourth edition. Geneva: World Health Organization; 2020 (Laboratory biosafety manual, fourth edition and associated monographs)
  www.who.int/publications/i/item/9789240011311
- U.S. Department of Health and Human Services, *Biosafety in Microbiological and Biomedical Laboratories (BMBL)*, 6th Edition, HHS Publication No. (CDC) 300859, Revised June 2020
  https://www.cdc.gov/labs/pdf/CDC-BiosafetymicrobiologicalBiomedicalLaboratories-2020-P.pdf

C Documentation and support

Related documentation

Document	Pub. No.
TrueMark™ Pathogen Assays on TaqMan™ Array Plates Quick Reference	MAN0026672
TrueMark™ Respiratory Plus Panel Product Information Sheet	MAN0026675
TrueMark™ Urinary Plus Panel Product Information Sheet	MAN0026674
TrueMark™ STI and Vaginal Plus Panel Product Information Sheet	MAN0026673
TrueMark™ Pathogen Assays on TaqMan™ Array Plates Controls Product Information Sheet	MAN0026676
TaqMan™ Universal Extraction Control Organism (B. atrophaeus) Product Information Sheet	MAN0018535
MagMAX™ Viral/Pathogen Ultra Nucleic Acid Isolation Kit (automated extraction) User Guide	MAN0018075
MagMAX™ Viral/Pathogen Nucleic Acid Isolation Kit (automated extraction) User Guide	MAN0018073
MagMAX™ Viral/Pathogen II Nucleic Acid Isolation Kit Instructions For Use	MAN0019746
QuantStudio™ 5 Dx Real-Time PCR Instrument Maintenance and Administration User Guide	100042186
QuantStudio™ 3 and 5 Real-Time PCR Systems Installation, Use, and Maintenance Guide	MAN0010407
QuantStudio™ Design and Analysis Desktop Software User Guide	MAN0010408
QuantStudio™ 6 Pro Real-Time PCR System and QuantStudio™ 7 Pro Real-Time PCR System User Guide	MAN0018045
QuantStudio™ 7 Pro Dx Real-Time PCR Instrument User Guide (RUO Workflow)	100102616
QuantStudio™ Design and Analysis Software v2 User Guide	MAN0018200

Customer and technical support

Visit **thermofisher.com/support** for the latest service and support information.

- Worldwide contact telephone numbers
- Product support information
  - Product FAQs
  - Software, patches, and updates
  - Training for many applications and instruments
- Order and web support

- Product documentation
  - 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 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**.