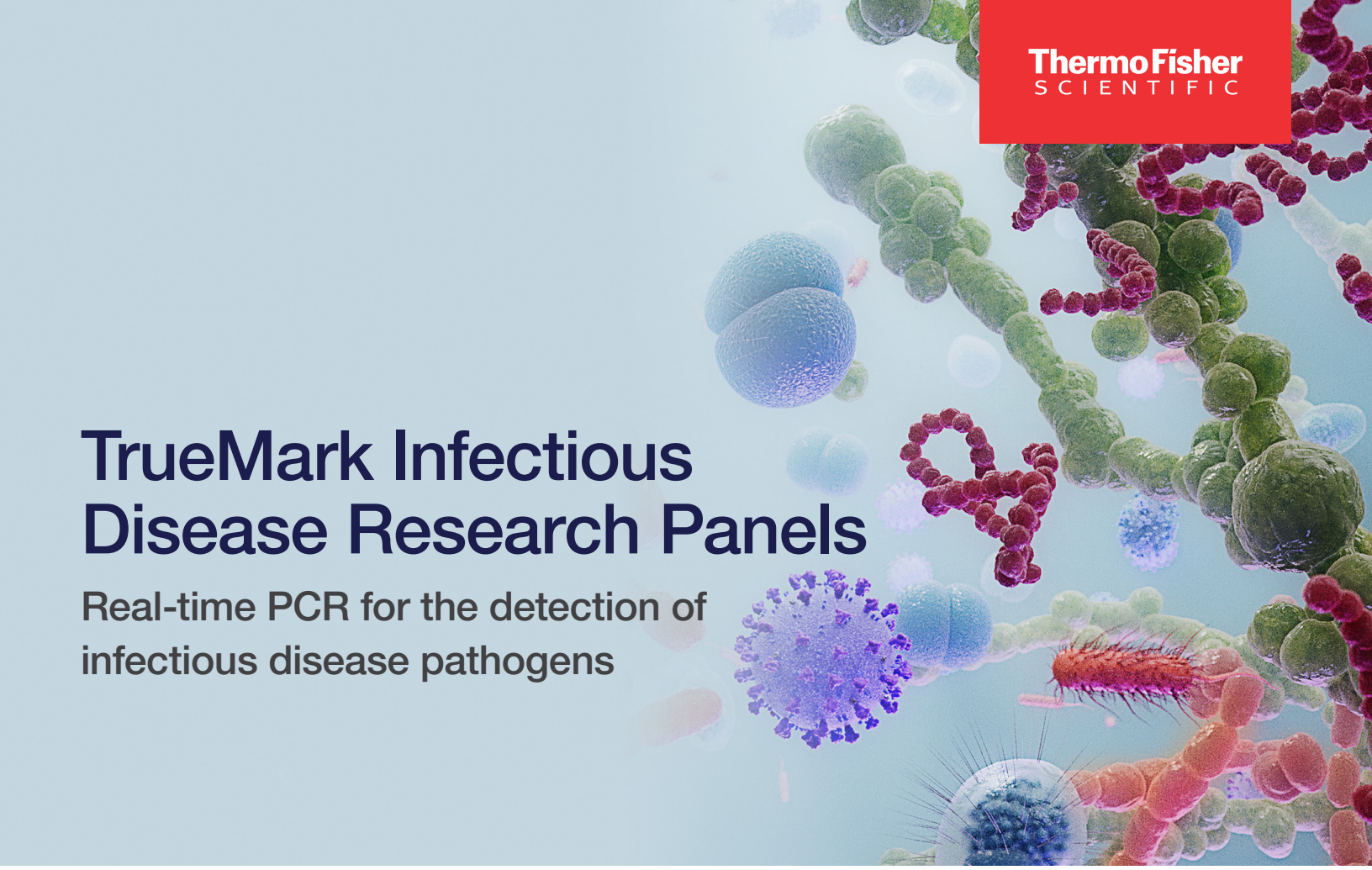


TrueMark Infectious Disease Research Panels

Real-time PCR for the detection of infectious disease pathogens

A flexible, scalable, and reliable solution to expand your infectious disease research menu

Expand your laboratory testing capabilities with PCR-based research solutions that can accommodate a growing number of infectious disease areas and can enable early, accurate detection and differentiation compared to traditional methods. Detection of common infectious diseases with traditional culture- or microscopy-based methods can lack sensitivity and specificity. Real-time PCR (qPCR) is an innovative solution for detecting slow-growing, difficult-to-cultivate, or uncultivable microorganisms.

Applied Biosystems™ TrueMark™ Infectious Disease Research Panels achieve molecular detection through qPCR technology, offering an end-to-end research workflow for many common infectious disease areas by utilizing the power of Applied Biosystems™ QuantStudio™ real-time PCR systems.* The combination of a TrueMark panel plate and a QuantStudio system enables rapid, accurate detection and analysis of microorganisms that cause respiratory, vaginal, urinary, gastrointestinal, wound, and sexually transmitted infections. This combination also increases the number of options available for running antibiotic resistance tests.

QuantStudio real-time PCR systems*

applied biosystems

Features of TrueMark Infectious Disease Research Panels

Customizable

Choose from a selection of predefined panels covering eight pathogens per panel, or customer-defined panels from a wide selection of microbial and antibiotic resistance assays

Expanded content

Pathogen detection panels available for analysis of several different disease states

Internal process controls

Duplex reactions offer RNase P human internal control or *Bacillus atrophaeus* bacterial spike-in control** in every well for added confidence

TrueMark Infectious Disease Research Plus Panels

Applied Biosystems™ TrueMark™ Infectious Disease Research Plus Panels include a collection of 10 predefined panel options to choose from, with targets for research focused on different disease areas including respiratory, urinary, sexually transmitted, vaginal, lesion, and genital infections.

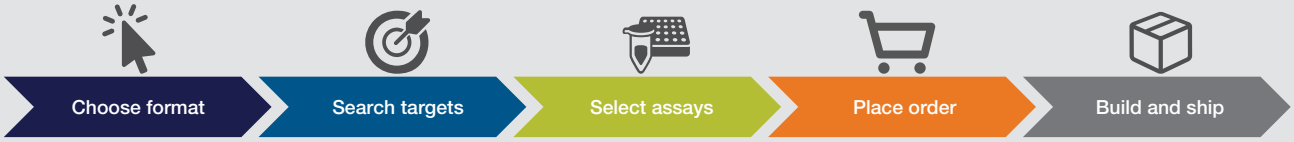
These duplexed reactions come in an eight-target design, dried down on Applied Biosystems™ TaqMan™ Array Plates, and include RNase P or *Bacillus atrophaeus*** as an internal process control in every well for added accuracy. The predefined panels are sold as a combo kit, which includes five plates and master mix.

Easy-to-build custom infectious disease research panels†

There is also the option to easily select and build custom infectious disease research panels, from 4 to 24 targets, in various preferred research formats, providing complete flexibility to meet the needs of every laboratory.

Custom options are available on 96- or 384-well plates.

How to build a custom panel



Typical turnaround time:
~3-5 weeks

The process is efficient and involves choosing the format, identifying the targets of interest, selecting from a library of predesigned assays, and placing the order.

Maximize and maintain the workflow you've mastered with your existing PCR instrumentation

Current customers can expand to new molecular infectious disease panels using custom, made-to-order, or predefined panels on TaqMan Array Plates for 96- and 384-well panels on QuantStudio qPCR systems.* For new customers, we can help you easily set up your research laboratory for molecular testing with an end-to-end workflow. Go from research sample to result in approximately four hours.

Receive samples	Sample prep	Prepare plate	Run PCR on existing instrument	Analyze and report
Vaginal swab,‡ genital swab, lesion swab, nasopharyngeal swab,‡ nasopharyngeal aspirate,‡ or urine sample‡	Use existing workflow including Thermo Scientific™ KingFisher™ systems and Applied Biosystems™ MagMAX™ kits	Select panel for either 96-well or 384-well block plate and place sample and Applied Biosystems™ multiplex master mix into each well of plate	Load plate into existing instrument and run PCR	Applied Biosystems™ QuantStudio™ Design and Analysis Software v2.6

Benefits of molecular testing

Increased sensitivity

Molecular tests are more reliable, accurate, and sensitive compared to traditional culture and microscopy methods [1,2]

Timely results

Real-time PCR can provide results in as little as 4–6 hours, whereas manual methods, such as culture, can take 3 days or longer [1,2]

Benefits of buying from Thermo Fisher Scientific

Complete end-to-end solution

Optimized for use on QuantStudio qPCR systems* with verified sample-to-answer workflow

Expertise in assay design

Run comprehensive molecular testing panels with assays optimized for maximal strain coverage, sensitivity, and internal control

Exceptional service and support

Analytical verification consultation services available to help easily implement solutions for research

Increased productivity, analytical sensitivity, and specificity with qPCR technology

Implementing genetic analysis systems and solutions in the laboratory has been directly linked to improved efficiencies, cost savings, and faster time to analyzing results. qPCR can detect slow-growing, difficult-to-cultivate microorganisms, making it ideal for when culture methods are inadequate, ambiguous, time-consuming, difficult, or costly [1,2].

Analytical validation consultation services for research products

When adopting a new testing method for your research needs, we can assist in enabling the verification of the workflow to help ensure a successful launch. Our analytical validation (AV) consulting services can speed up the launch process by up to 75% [3] and cut costs by up to half. Our experienced team will consult to help develop and optimize your research workflow, while providing data analysis support and template documentation to fully maximize your instrument and reagent investment.

Consulting services offered for enabling AV cannot be used to validate a clinical diagnostic workflow and can only be used to support ongoing true research efforts.

TrueMark Infectious Disease Research Plus Panels, predefined on 96-well plates

Respiratory panel options

Applied Biosystems™ TrueMark™ Respiratory I Plus Panel

Pathogen type	Pathogens	Control type	Sample type
Viral	Adenovirus Enterovirus Influenza A (Pan) Influenza B Respiratory syncytial virus A/B (RSV A/B) Rhinovirus Human metapneumovirus (HM) SARS-CoV-2 ORF1ab	RNase P internal control	Nasopharyngeal swab‡ or nasopharyngeal aspirate‡

Applied Biosystems™ TrueMark™ Respiratory II Plus Panel

Pathogen type	Pathogens	Control type	Sample type
Viral	Coronavirus 229E (CE) Coronavirus HKU1 (CH) Coronavirus NL63 (CN) Coronavirus OC43 (CO) Parainfluenza 1 (P1) Parainfluenza 2 (P2) Parainfluenza 3 (P3) Parainfluenza 4 (P4)	RNase P internal control	Nasopharyngeal swab‡ or nasopharyngeal aspirate‡

Applied Biosystems™ TrueMark™ Respiratory III Plus Panel

Pathogen type	Pathogens	Control type	Sample type
Bacterial	*Chlamydia pneumoniae* *Moraxella catarrhalis* *Klebsiella pneumonia* *Staphylococcus aureus* (SA) *Haemophilus influenzae* (HI) *Legionella pneumophila* (LP) *Mycoplasma pneumoniae* (MP) *Streptococcus pneumoniae* (SP)	RNase P internal control	Nasopharyngeal swab‡ or nasopharyngeal aspirate‡

Urinary panel options

Applied Biosystems™ TrueMark™ Urinary I Plus Panel

Pathogen type	Pathogens	Control type	Sample type
Bacterial	*Pseudomonas aeruginosa* *Proteus mirabilis* *Escherichia coli* *Klebsiella pneumoniae* *Staphylococcus aureus* Coagulase-negative *staphylococci* *Staphylococcus saprophyticus*	*Bacillus atrophaeus* spike-in control**	Urine sample‡
Fungal	*Candida albicans*		

Applied Biosystems™ TrueMark™ Urinary II Plus Panel

Pathogen type	Pathogens”	Control type	Sample type
Bacterial	*Corynebacterium riegelii* *Enterobacter aerogenes* *Aerococcus urinae* *Proteus vulgaris* *Acinetobacter baumannii* *Actinobaculum schaalii* *Enterococcus faecalis* *Streptococcus agalactiae*	*Bacillus atrophaeus* spike-in control**	Urine sample‡

Applied Biosystems™ TrueMark™ Urinary III Plus Panel

Pathogen type	Pathogens	Control type	Sample type
Bacterial	*Citrobacter freundii* *Enterobacter cloacae* *Enterococcus faecium* *Klebsiella oxytoca* *Serratia marcescens* *Mycoplasma hominis* *Morganella morganii* *Providencia stuartii*	*Bacillus atrophaeus* spike-in control**	Urine sample‡

Sexually transmitted infection (STI) and vaginal health panel options

Applied Biosystems™ TrueMark™ STI Plus Panel

Pathogen type	Pathogens	Control type	Sample type
Bacterial	*Chlamydia trachomatis* (CT) *Neisseria gonorrhoeae* (NG) *Mycoplasma genitalium* (MG) *Mycoplasma hominis* (MH) *Ureaplasma parvum* (UP) *Ureaplasma urealyticum* (UU)	RNase P internal control	Vaginal swab‡ or genital swab
Parasitic	*Trichomonas vaginalis* (TV)		
Viral	Herpes simplex virus type 1 and 2 (HSV1 and HSV2)		

Applied Biosystems™ TrueMark™ Vaginal Plus Panel

Pathogen type	Pathogens	Control type	Sample type
Bacterial	*Gardnerella vaginalis* (GV) *Atopobium vaginae* (AV) *Prevotella bivia* *Mobiluncus curtisii* (MC) *Bacteroides fragilis* Pan-*Lactobacillus* *Megasphaera* Type 1 (Mega1) Bacterial vaginosis–associated bacteria 2 (BVAB2)	RNase P internal control	Vaginal swab‡

Applied Biosystems™ TrueMark™ Lesion Plus Panel

Pathogen type	Pathogens	Control type	Sample type
Bacterial	*Haemophilus ducreyi* (HD) *Treponema pallidum* (TP) *Chlamydia trachomatis* L1, L2, and L3 (lymphogranuloma venereum)	RNase P internal control	Vaginal swab‡ or lesion swab
Viral	Herpes simplex virus type 1 (HSV1) Herpes simplex virus type 2 (HSV2) Cytomegalovirus (CMV) Varicella-zoster virus (VZV)		
Fungal	Pan-*Candida*		

Applied Biosystems™ TrueMark™ Genital Plus Panel

Pathogen type	Pathogens	Control type	Sample type
Bacterial	*Gardnerella vaginalis* (GV)	RNase P internal control	Vaginal swab‡ or genital swab
Fungal	*Candida albicans* *Candida krusei* *Candida dubliniensis* *Candida glabrata* *Candida tropicalis* *Candida parapsilosis*		
Parasitic	*Trichomonas vaginalis* (TV)		

Ordering information

Description	Quantity	Cat. No.
TrueMark Infectious Disease Predefined Plus Panels, combo kit options§		
TrueMark Respiratory I Plus Panel, Combo Kit	5 plates	A56284C
TrueMark Respiratory II Plus Panel, Combo Kit	5 plates	A56286C
TrueMark Respiratory III Plus Panel, Combo Kit	5 plates	A56287C
TrueMark Urinary I Plus Panel, Combo Kit	5 plates	A56288C
TrueMark Urinary II Plus Panel, Combo Kit	5 plates	A56289C
TrueMark Urinary III Plus Panel, Combo Kit	5 plates	A56290C
TrueMark STI Plus Panel, Combo Kit	5 plates	A56291C
TrueMark Vaginal Plus Panel, Combo Kit	5 plates	A56292C
TrueMark Lesion Plus Panel, Combo Kit	5 plates	A56293C
TrueMark Genital Plus Panel, Combo Kit	5 plates	A56294C
TrueMark Infectious Disease 1-Step Multiplex Master Mix (No ROX)	3 x 1 mL	Included with combo kit
TrueMark Infectious Disease Custom Panel offerings†		
TrueMark Respiratory Panel	Varies	A55017
TrueMark Urinary Panel	Varies	A55018
TrueMark STI and Vaginal Panel	Varies	A55019
TrueMark Gastrointestinal Panel	Varies	A55020
TrueMark Antibiotic Resistance Panel	Varies	A55021
TrueMark Custom Assay Panel	Varies	A55022

Description	Quantity	Cat. No.
Other components needed with TrueMark Infectious Disease Custom Panels, sold separately		
TaqPath 1-Step Multiplex Master Mix (No ROX)	1 x 10 mL	A28523
Other components needed with TrueMark Infectious Disease Predefined Plus and Custom Panels, sold separately		
MagMAX Viral/Pathogen Ultra Nucleic Acid Isolation Kit	100 preps	A42356
MagMAX Viral/Pathogen Nucleic Acid Isolation Kit	Up to 200 preps	A42352
TaqMan Universal Extraction Control Organism	3 pellets	A39180
TrueMark Amplification Control (1 x 10^5 copies/µL)	1,000 µL	A55699
TrueMark Amplification Control (5 x 10^7 copies/µL)	50 µL	A55698

* Applied Biosystems™ QuantStudio™ 5 Dx and 7 Pro Dx systems are For *In Vitro* Diagnostic Use. Test development mode is for Research Use Only. Not for use in diagnostic procedures.

** Spike in the Applied Biosystems™ TaqMan™ Universal Extraction Control Organism (Cat. No. A39180) containing Bacillus atrophaeus for use as a process control.

† For specific custom options available, contact your sales representative or customer service.

‡ Internally tested sample types.

§ Combo kits include five TaqMan Array Plates and 3 x 1 mL tubes of TrueMark Infectious Disease 1-Step Multiplex Master Mix (No ROX).

References

1. Finegold DN. Genetic Diagnostic Technologies. Merck Manuals Consumer Version, Merck Manuals, 21 Feb. 2023, **merckmanuals.com/home/fundamentals/genetics/genetic-diagnostic-technologies**
2. Vazquez-Pertejo MT. Diagnosis of Infectious Disease. Merck Manuals Consumer Version, Merck Manuals, 21 Feb. 2023, **merckmanuals.com/home/infections/diagnosis-of-infectious-disease/diagnosis-of-infectious-disease**
3. Thermo Fisher Scientific. (2022) Analytical Validation Consulting Services. **thermofisher.com/av**

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