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Expert Monitoring and Protection from SARS-CoV-2

Thermo Scientific™ SARS-CoV-2 Real-Time PCR Workflow for packaging and environmental surfaces

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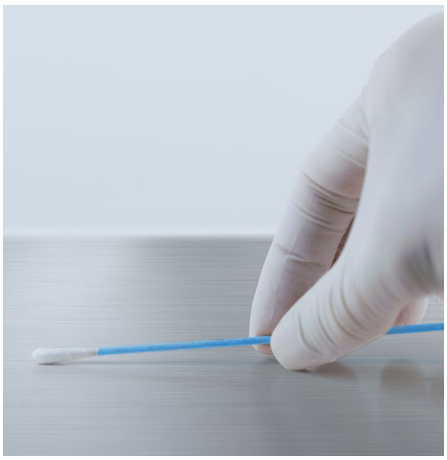
Safeguarding employees, customers and protecting your brand

Studies have shown that in some conditions SARS-CoV-2 (the virus that causes COVID-19) can remain viable on common surfaces, such as that used for packaging, for up to 28 days.[1] The virus may can be transmitted when a healthy person touches contaminated food or environmental contact surfaces (including packaging materials), and then shortly afterwards, touches their eyes, mouth, or nose.

Proper cleaning, surveillance, and the prevention of cross-contamination are critical for monitoring working environment and the development of relevant control measures. The application of sound principles of environmental sanitation, personal hygiene and established food safety practices will reduce the likelihood that harmful pathogens including SARS-CoV-2 will threaten the safety of the food supply, regardless of how the food is sourced.

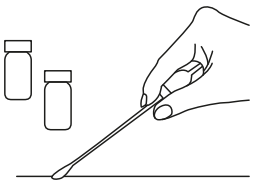
Clearly, at this critical time, HACCP is as important as it has ever been, and in the current pandemic, food and beverage companies, retailers, public health authorities and other businesses are seeking solutions to monitor the presence of SARS-CoV-2 in their environments.

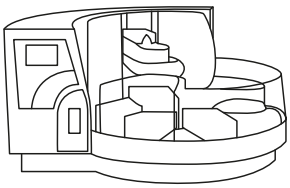


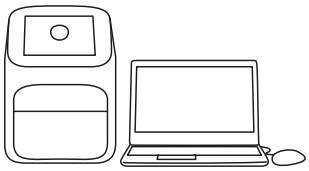
Thermo Scientific SARS-CoV-2 Real-Time PCR Workflow for Packaging & Environmental Surface testing

These products provide a total, end-to-end, workflow solution to detect the virus, from swab to result, to help prevent the infection from spreading through contact with contaminated surfaces and packaging and by providing an indication that infected personnel may be present in the environment providing information that can be used to help protect key workers, the industries and consumers.

The SARS-CoV-2 PCR workflow for testing of packaging and environmental surfaces includes the components for sample collection, sample preparation, DNA detection and results analysis.







Sampling and Transport	Sample Preparation	PCR and Data Analysis
Simple sample collection with swabs and Viral Transport Medium or Phosphate Buffered Saline	Options for automated medium to high-throughput and manual low-throughput	Master mix, TaqMan assay and Real-Time PCR instrumentation with data analysis software

The SARS-CoV-2 PCR workflow includes three TaqMan RT-PCR assays, to target SARS-CoV-2 (ORF1ab, N-gene, S-gene) genes, and one positive control assay, targeting the Human RNase P RPPH1 gene offering both high specificity and sensitivity, while delivering results in as little as three hours, thereby providing valuable information in evaluating the efficiency of control measures and in developing proper hygiene control measures. With the multi-target design of this assay, overall test sensitivity should not be impacted by the new SARS-CoV-2 strain lineage—B.1.1.7 variant.

The SARS-CoV-2 PCR workflow has been certified through the Emergency Response Validation AOAC Performance Tested Method℠ program for detection of the virus on stainless steel surfaces (such as those found in a food production environment).

Ordering information

Use/Purpose	Description	Format	Order code
Sampling and Transport			
Surface sampling	Thermo Scientific™ MicroTest™ Flocked Swab Kits	Pack of 100 swabs	R12542
	Non-cellulose swab with synthetic tip	Various	Go to fisherscientific.com
Transport medium	Thermo Scientific™ Phosphate Buffered Saline	24 x 20 mL	BO0971G
		100 tablets, each for 100 mL	BR0014G
Sample Preparation (nucleic acid extraction)			
Medium to high throughput automated sample preparation	Thermo Scientific™ KingFisher™ Flex-96 Deep-Well Magnetic Particle Processor	Instrument	A32681
	KingFisher™ Deep-Well 96 Plate, V-bottom	50 x 96-well plates	95040450
	KingFisher™ Flex 96 Deep-Well Heating Block	1 block	24075430 (included in A32681)
	KingFisher™ 96 tip comb for D-W magnets	Case of 100	97002534
Low to medium throughout automated sample preparation	Thermo Scientific™ KingFisher™ mL Food Safety Instrument	Instrument	5400050C
	KingFisher™ mL Food Protection Purification System Tubes & Tips	240 tests	15951
	KingFisher™ mL Food Protection Purification System Tube Rack	1 rack	15952
Manual sample preparation	Invitrogen™ DynaMag™ -2 Magnet	1 each	12321D
Nucleic acid extraction reagents for use with sautomated and manual extraction methods	Applied Biosystems™ PrepSEQ™ Nucleic Acid Extraction Kit for Food and Environmental Testing	300 preparations	4428176
		100 preparations	4480466

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Ordering information continued

Use/Purpose	Description	Format	Order code
PCR and Data Analysis			
Master Mix	Thermo Scientific™ RNA UltraSense™ One-Step Quantitative RT-PCR Master Mix	100 reactions	11732927
	Total RNA Control (Human)	100 µL	4307281
Use/Purpose-TaqMan® PCR Assay	TaqMan 2019nCoV Assay Kit v1:		
	2019-nCoV (ORF1ab) Assay, FAM dye, 20X	75 µL	A47532
	2019-nCoV (S protein) Assay, FAM dye, 20X	75 µL	
	2019-nCoV (N protein) Assay, FAM dye, 20X	75 µL	
	RNase P Assay, VIC dye, 20X	250 µL	
Synthetic positive control for assay performance verification	TaqMan® 2019-nCoV Control Kit v1 2019nCoV DNA Control (covering Gene Orf-1ab, Gene S protein and Gene N protein, RNase P)	50 µL (concentration 1 x 10^4 copies / µL)	A47533
Real-Time PCR and data analysis	Applied Biosystems™ QuantStudio™ 5 Food Safety Real-Time PCR System (96-well, 0.1 mL Block) Includes: Applied Biosystems™ QuantStudio™ Design and Analysis Software v1.5.1 or later and Thermo Scientific™ RapidFinder™ Analysis Software v1.0 or later	System with laptop computer	A36328
	Applied Biosystems™ 7500 Fast Food Safety Real-Time PCR System Includes: Applied Biosystems™ 7500 Fast Instrument, RapidFinder™ Express v2.0 and SDS 1.4 or later software	System with laptop computer	A30299

1. Riddell, S., Goldie, S., Hill, A. et al. The effect of temperature on persistence of SARS-CoV-2 on common surfaces. Virol J 17, 145 (2020). https://doi.org/10.1186/s12985-020-01418-7

To find out more about detection of SARS-CoV-2 on food packaging and environmental surfaces visit **thermofisher.com/food-sars-cov-2**

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