VIR*Seek* SARS-CoV-2 Mplex

TEST KIT FOR SARS-COV-2 DETECTION
(N1/N2-GENE TARGETS)
QUALITATIVE RT-REAL-TIME PCR FROM ENVIRONMENTAL AND FOOD SURFACES

Cat. No. 5728201101

For 96 RT-qPCR reactions

VIR*Seek*

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1 INTRODUCTION

Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus called severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).

Most people infected with the COVID-19 virus will experience mild to moderate respiratory illness and recover without requiring special treatment. Older people and those with underlying medical problems e.g. like cardiovascular disease, diabetes, and chronic respiratory disease are more likely to develop serious illness.

Main route of transmission is mainly from person-to-person via respiratory droplets from coughs and sneezes. Potential indirect route of transmission by touching surfaces is discussed, as data have been generated proofing a survival of SARS-CoV-2 on surfaces such as stainless steel for up to 72 hours (see reference 1). These findings render testing of environmental, as well as food surfaces, reasonable and knowledge of the presence of SARS-CoV-2 genomic RNA would enable businesses, individuals, state agencies to take adequate decisions in regards to cleaning and/or decontamination as well as measure the effectiveness of cleaning.

Corman *et al.* (see reference 2) recommend testing samples using a two-step procedure, which is also in alignment with the testing procedure recommended by the WHO (see reference 4).

The VIR*Seek* SARS-CoV-2 Mplex kit detects two targets on the N-gene (nucleocapsid) sequence, N1 and N2*, which are both detected in the FAM™ channel, thereby fulfilling these requirements.

The primer / probe combination of this PCR system is highly specific for SARS-CoV-2 and does not cross-react with SARS-CoV, MERS-CoV, or the seasonal human coronaviruses HKU1, OC43, NL63, 229E.

Furthermore, cross-reactivity was experimentally excluded for various animal Corona viruses, food-related viruses, typical background flora and several food matrices.

The VIR*Seek* SARS-CoV-2 Mplex kit provides all reagents for the rapid detection of the SARS-CoV-2 N1 and N2 regions of the N-gene on environmental and food surfaces via RT-qPCR. Furthermore, an optional extraction control that allows monitoring the extraction procedure as well as potential PCR inhibition is included.

An adequate protocol for sampling of viral material, as described in the Patho*Swab* 50, followed by a suitable RNA extraction approach, e.g. VIR*Seek* RNA*Extractor*, is required for these sample types.

The VIR*Seek* SARS-CoV-2 Mplex kit is validated for use with the Agilent AriaMx™, Bio-Rad CFX96 Touch™, CFX96 Touch™ Deep Well and the Applied Biosystems™ 7500 (Standard) PCR platforms.

The kit is intended to be used by analytical laboratories for environmental surface samples as part of quality control / quality assurance testing, (e.g. virological monitoring of production processes) or food surface testing, however transmission via food surfaces is currently under investigation and has not been confirmed as a route of exposure.

The kit is not intended for clinical diagnostics and should therefore be regarded as “For Research Use Only”.

* VIR*Seek* SARS-CoV-2 Mplex N1 and N2 target sequences are not identical to the corresponding targets from CDC US and China, respectively.

1.1 Test Principle

After sampling of viral particles from environmental or food surfaces and subsequent extraction of viral RNA the VIR*Seek* SARS-CoV-2 Mplex kit can be used for the detection of the SARS-Cov-2 N1/N2 target regions.

The first step of a RT-qPCR is the reverse transcription (RT) of viral RNA to cDNA, which can then be amplified by real-time PCR. For the extraction of RNA we recommend the VIR*Seek* RNA*Extractor* or VIR*Seek* RNA*Extractor* AE1 kits (see section 1.4).

For sampling from food surfaces, we recommend the protocol provided by ISO 15216-2: 2019 by using a sterile swab. For environmental surface sampling we recommend following the respective WHO guideline (see reference 3), before extracting the viral RNA. DNA amplification and detection methods take advantage of the nucleotide sequence conservation found in viral genomes that allow highly specific and sensitive detection of pathogenic viruses.

By means of specific primer nucleotide sequences of the SARS-CoV-2 N1/2 target regions are amplified during PCR from isolated and reverse-transcribed total RNA. Primers do not cross-react with transcribed RNA (cDNA) from other common food-borne virus species, including norovirus genogroup I & II, hepatitis A & E virus, rotavirus, adenovirus or astrovirus.

The extraction control (EC) contains MS2 phage particles, which can be added to the samples before the extraction procedure. Detection of the respective target sequence in the subsequent RT-qPCR confirms the successful extraction of viral particles from the sample, as well as the absence of inhibition in the PCR.

1.2 Components of the Kit

Please pay attention to the storage condition and the maximum number of freeze/thaw cycles.

- 2x **Oligo Mix VIR*Seek* SARS-CoV-2 Mplex**, vials with orange caps, contains primers / probes for EC / SARS-CoV-2 N-Genes, 159 µL, store at -20 °C ± 2 °C, do not freeze / thaw more than 3 times.
- 2x **Basic Mix 2 VIR*Seek* SARS-CoV-2 Mplex**, vials with white caps, 265 µL, store at -20 °C ± 2 °C, do not freeze / thaw more than 3 times.
- 2x **Positive Control SARS-CoV-2 Mplex**, vial with red cap, 125 µL, store at -20 °C ± 2°C, do not freeze / thaw more than 3 times.
- 1x **Negative Control**, vial with transparent cap, 500 µL, store at -20 °C ± 2 °C.
- 2x **Extraction Control**, vial with yellow cap, contains MS2 phage for lysis/extraction and amplification control, 1000 µL, store at -20 °C ± 2 °C, do not freeze / thaw more than 3 times.

1.3 Additional Equipment, Consumables and Reagents Required

Equipment:

- 1x **Stepper pipette (1 mL),** (e.g. HandyStep® S (Brand®), Eurofins GeneScan Technologies GmbH, cat. no. 5617703401).
- 1x **Single channel pipette (1 mL, 100 µL),** (e.g. Transferpette® S 100 - 1000 µL (Brand®), Eurofins GeneScan Technologies GmbH, cat. no. 5617703301).
- 1x **Single channel pipette (100 µL, 10 µL),** (e.g. Transferpette® S 10 - 100 µL (Brand®), Eurofins GeneScan Technologies GmbH, cat. no. 5617703201).
- 1x **Single channel pipette (up to 10 µL),** (e.g. Transferpette® S, 0.5 - 10 µL (Brand®), Eurofins GeneScan Technologies GmbH, cat. no. 5617703101).
- 1x **Cooling block** for 1.5 mL tubes, (e.g. Biozym, BCS-163).
- 1x **96 well cooling block,** (e.g. Blue cooling block 96 well, Eurofins GeneScan Technologies GmbH, cat. no. 5613900501).
- 1x **Vortex mixer,** (e.g. VWR Collection, cat. no. 444-2790).

Centrifuge for microtiter-plates / or -strips - depending on throughput:

- Capacity of 2x 8-well strips: (e.g. Carl Roth GmbH, Rotilabo® centrifuge with butterfly rotor, cat. no. T465.1).
- Capacity of 4x 8-well strips: (e.g. Mini Centrifuge IKA Mini G, cat. no. 5613902601 or VWR, MiniStar silverline cat. no. 521-2844P).
- Capacity of two times 12x 8-well strips: (e.g. Benchmark Scientific, PlateFuge™ microplate microcentrifuge, cat. no. 5613901701).

Real-time PCR Thermocycler:

- Agilent AriaMx™ with FAM™ and Cy5™ filter set (AriaMX Software, up to version 1.5).
- Bio-Rad CFX96 Touch™ (CFX Manager™ Software / CFX Maestro™ Software).
- Bio-Rad CFX96 Touch™ Deep Well (CFX Manager™ Software / CFX Maestro™ Software).
- Applied Biosystems™ 7500 Standard (Sequence Detection Software v2.3).

Evaluation Software (optional):

- FastFinder automated PCR analysis software (UgenTec NV, Hasselt, Belgium) with the latest version of the respective plugin.

Consumables:

- **RNase-free water** (molecular biology grade).
- **Nucleic acid / Nuclease-free pipette tips** with filters, need to be compatible with pipettes used.
- **RNase-free reaction tubes,** 1.5 mL (e.g. DNA LoBind Tubes, Eppendorf, cat. no. 0030108051).
- **PCR plates or strips**, compatible with thermocycler used.
- **Optical 8-caps strip or equivalent seals** (compatible with thermocycler used).
- **RNase decontaminating reagent** (e.g. RNase AWAY® Carl Roth GmbH, cat. no. A998).
- **DNA degrading agent** (e.g. Roti® Nucleic Acid-free, Carl Roth GmbH, cat. no. HP69).
- **Gloves,** powder free.
- **Ice**

1.4 Complete Portfolio of the VIR*Seek* Solution

- **VIR*Seek* SARS-COV-2 Screen**, cat. no. 5728200601
  - RT-qPCR kit with 96 reactions for rapid screening for SARS-CoV-2 E-gene sequence in environmental and food surface samples.
- **VIR*Seek* SARS-CoV-2 Ident 2**, cat. no. 5728200705
  - RT-qPCR kit with 48 reactions for rapid detection of SARS-CoV-2 specific RdRP sequence in environmental and food surface samples.
- **VIR*Seek* Murine Norovirus (MNV) Process Control**, cat. no. 5728200401
  - Murine norovirus spiking material (1 mL) and RT-qPCR kit with 48 reactions for rapid detection of murine norovirus (MNV) process control virus in samples.
  - Also available without Murine norovirus spiking material (cat. no. 5728200801).
- **VIR*Seek* RNA*Extractor***, cat. no. 5524400101
  - Kit for extraction of viral RNA via silica-coated magnetic beads.
- **VIR*Seek* RNA*Extractor* AE1**, cat. no. 5524400801 / 5524400805
  - Kit for 96 automated viral RNA isolations from environmental samples. Validated for Thermo Scientific™ KingFisher™ Flex.

2 HOW TO USE THIS PRODUCTImportant Notes

- Store all reagents as indicated in section 1.2.
- During PCR set-up:

Keep all reagents on ice ice/cooling block.

Perform all pipetting steps on ice/cooling block.

- Do not use the reagents beyond the expiration dates printed on the labels.
- Never store kit components in the vicinity of samples or post-PCR products.
- Ideally perform PCR in a UV PCR cabinet.

2.2 General and Safety Precautions

- All samples should be handled with caution, ideally in a bio safety cabinet class II, as they are potentially infectious.
- Viruses should not be handled by pregnant women, children, elderly and immuno-compromised individuals due to the high infection risk and potentially fatal health consequences for this group, in particular for the unborn child in case of pregnant women.
- The VIR*Seek* kit contains glycerol and propane-1,2-diol which may cause mild skin irritation. For more information, please refer to the VIR*Seek* kit safety information.

2.3 Working Guidelines

- Comply with Good Laboratory Practice (refer to EN ISO 7218 standard).
- Refer to EN ISO 22174:2005 for the general requirements for the *in-vitro* amplification of nucleic acid sequences.
- Refer to ISO 15216-2:2019 for virus sampling and extraction from food surfaces.
- For sampling from environmental surfaces, please follow the respective WHO guideline (see reference 3) before proceeding with RNA extraction.
- Perform cleaning protocol (outlined in section 2.5).
- Use DNA-, nuclease-free and sterile lab ware.
- Wear gloves and change frequently.

2.4 RNA Handling – Specific Working Guidelines

It is important to create and maintain an RNase-free environment when working with RNA. RNases are very thermostable enzymes degrading RNA – even in small quantities. Laboratory personnel are the main source for RNase contamination as RNases are expressed in human keratinocytes and are present on skin and hairs.

- Separate the different procedures spatially.
  Ideally use separate rooms for sample preparation and PCR setup laid-out to maintain a strict "one-way-system", thus avoiding cross-contamination in the work stream.
  At least dedicate different areas, equipment and consumables for each procedure.
- Establish a working area, designated as "RNase-free", in which only RNA work is performed. If the RNase-free working area is inside a lab with non-RNase-free working areas, clearly indicate RNase-free parts, e.g. using colour tape.
- Use dedicated RNase-free lab equipment (e.g. pipettes) for RNA-related work. Glassware has to be cleaned and decontaminated before use. For decontamination we recommend baking glassware at >200 °C for ≥4 hours.
- Only use RNase-free filter tips and consumables which are certified to be RNase-free.
- Control high risk areas for DNA / amplicon contamination on a regular basis (swabs / PCR analysis).
- Clean the RT-qPCR working area as described in the cleaning protocol (see section 2.5).
- Wear disposable gloves (latex or vinyl gloves) to prevent contamination with RNases which are present on human skin. Change gloves frequently during the procedure and / or after touching skin, hair, common surfaces etc.
- Wear a lab coat to prevent contamination from clothes.
- Always thaw RNA on a cooling block/ on ice and store RNA at -20 °C or below.
- Handle RT-qPCR enzyme mix as briefly as possible at 0 °C or above. Do not mix reagents from different kits and do not mix reagents from different batches. Return all reagents to -20 °C after usage.
- Store VIR*Seek* kit components for RT-qPCR in dedicated areas, and separate from sample storage.
- Only open one tube at a time and always change pipette tips between liquid transfers to avoid cross-contamination.

2.5 Cleaning Protocol

Before commencing work and after completing the work, ensure that the RT-qPCR working area is cleaned as follows:

Cleaning steps	Cleaning protocol
1.	Decontaminate surfaces with Roti® Nucleic Acid-free* or 1 % HCl (hypochlorite acid) to remove DNA / RNA contamination.
2.	Clean the work surfaces and non-disposable laboratory equipment (pipettes, shaker, thermo shaker etc.) with an RNase decontaminating solution* (e.g. RNase AWAY®, Carl Roth, cat. no. A998) to remove RNase contaminations.

** Follow the manufacturer's instructions.*

2.6 Waste Disposal

Dispose of any waste which is potentially contaminated with a pathogenic virus according to your internal and local regulations.

For disposal of reagents and chemicals please refer to safety information.

2.7 Before you Begin

Store the cooling block for RT-qPCR at -20 °C overnight.

For RNA extraction use suitable RNA extraction kits, for optimal performance we recommend to use Eurofins GeneScan Technologies' VIR*Seek* RNA*Extractor or* VIR*Seek* RNA*Extractor* AE1 kit (see section 1.4).

The extraction control (EC) is used for monitoring RNA extraction procedure and/or any potential PCR inhibition. Therefore, 20 µL of the EC have to be added prior to the nucleic acid extraction procedure into the lysis buffer.

2.8 RT-qPCR

2.8.1 Special Precautions during RT-qPCR Analysis

RT-PCR includes the reverse transcription (RT) of RNA into cDNA. RNA is a molecule which is particularly at risk of degradation due to abundant free RNases in the environment. Prior to RT, special emphasis has to be put on RNase-free environments (see section 2.4).

PCR is an exponential reaction. Therefore, after RT and amplification, the detection of single DNA targets is possible. The extreme sensitivity requires special precautions for handling and equipment. After a successful amplification, several billion amplicons are present in the reaction tube. Each of them might lead to a false positive result when contaminating sample material, i.e. by spreading as aerosols.

2.8.2 PCR Setup

Keep all components (Oligo Mix and Basic Mix) permanently on ice/cooling block during PCR setup.
Prepare final reaction mix fresh each time and immediately before starting the RT-qPCR run.

Calculate required number of reactions and pipette all components (Oligo Mix and Basic Mix) together and mix for the final reaction mix. The final RT-qPCR reaction mix is prepared with an additional 10 % volume.

Frequent freezing and thawing might cause inactivation of the reagents. Do not freeze / thaw kit components more than three times.

Components of final reaction mix	**Amount per reaction**	**e.g. for 10 RT-qPCR reactions (+ 10 %)**
Basic Mix	5 µL	55 µL
Oligo Mix	3 µL	33 µL
Total volume	8 µL	88 µL

Before starting the practical working steps make sure you have switched on the computer, the PCR instrument and ensure the sample layout for the PCR plate is suitably documented and programmed (see below “Plate Setup”).

1. Place PCR plate or strips into the 96-well cooling block which has been cooled at -20 °C.
2. Add 8 µL of final reaction mix to each test well.
3. Add 12 µL Positive Control SARS-CoV-2, Negative Control, negative extraction control sample, negative sampling control and negative sampling device control to the corresponding wells.
4. Add 12 µL of each sample to the corresponding reaction well of the PCR plate.
5. Use optical caps or foil to seal the PCR plate / strips.
6. Spin down the plate / strips in a centrifuge.
7. Transfer the PCR plate / strips in cooled condition to the RT-qPCR instrument and start the run according to the thermocycler’s instructions.
8. Store samples at -20 °C or below in case PCR needs to be repeated.

Samples and Controls for VIR*Seek* SARS-CoV-2 Mplex Assay

Designation	Volume of reaction mix	Addition of
Test samples	8 µL	12 µL of sample
Positive control (C^+)	8 µL	12 µL of Positive Control SARS-CoV-2
Negative control (C^-)	8 µL	12 µL of Negative Control
Negative extraction control (E^-)	8 µL	12 µL of negative extraction control sample
Negative sampling control (S^-)	8 µL	12 µL of negative sampling control sample
Negative sampling device control (SD^-)	8 µL	12 µL of negative sampling device control sample

Plate Setup

The following PCR plate setup is recommended, if samples are analysed for SARS-CoV-2 N1/N2 target sequences including a negative extraction control. The controls correspond to the controls recommended by ISO 15216-2:2019 and the respective WHO guideline (see reference 3).

	1	2	3	4	5	6	7	8	9	10	11	12
A	C^+	S1-1[1]										
B	C^-	S1-2[1]										
C	E^-	Sn-1[1]										
D	S^-*	Sn-2[1]										
E	SD^-*											
F												
G												
H												

[2] *ISO 15216-2:2019 recommends testing samples in PCR duplicates*

** The respective WHO guideline (see reference 3) recommends including negative swab and swabbing device samples.*

- C^+: positive control (of the target of interest)
- C^-: negative control
- E^-: negative extraction control
- S^-: negative sampling control
- SD^-: negative sampling device control
- S1-1 – Sn-2: test samples in duplicates

Note: For automated data evaluation using the FastFinder software (see section 3), please add following information during the plate set-up:

VIR*Seek* SARS-CoV-2 Mplex	**Detection Channel**	**Target Name**
SARS-CoV-2 (N1/N2)	FAM™	N1/N2
Extraction control (EC)	Cy5™	EC
Sample name**s** of **the controls should** start with “C+” (positive control**;** e.g. well **A1)** and with “C-“ (negative control**;** e.g. well B1)		

Thermal Profile for AriaMx™ and Bio-Rad CFX96 Touch™

1 HOLD	**1 HOLD**	**40 CYCLES**	
Reverse transcription	Enzyme activation & Reverse transcriptase inactivation	Denaturation	Annealing & Extension
10 min at 50 °C	3 min at 95 °C	10 sec at 95 °C	30 sec at 60 °C
No data collection	No data collection	No data collection	Data collection

For Bio-Rad CFX96 Touch™ Standard and Deep Well use default ramp rate.

Thermal Profile for Applied Biosystems™ 7500 Standard

1 HOLD	**1 HOLD**	**40 CYCLES**	
Reverse transcription	Enzyme activation & Reverse transcriptase inactivation	Denaturation	Annealing & Extension
20 min at 50 °C	10 min at 95 °C	10 sec at 95 °C	60 sec at 60 °C
No data collection	No data collection	No data collection	Data collection

Probe / Detection System

VIR*Seek* SARS-CoV-2 Mplex	**Fluorophore (Dye)**
SARS-CoV-2 (N1/N2)	FAM™
Extraction Control (EC)	Cy5™
Reference dye (ABI7500 only)	ROX™

3 DATA INTERPRETATION

Data is analysed by using the appropriate software provided by the cycler manufacturer or the FastFinder automated PCR analysis software.
For evaluation with the cycler software, we recommend the following settings:

RT-qPCR Thermocycler	Threshold	Baseline
Agilent AriaMX™	Auto[1)]	Adaptive
Bio-Rad CFX96 Touch™	Auto (Check visually)	Baseline Subtracted Curve Fit[2)]
Bio-Rad CFX96 Touch™ Deep Well		Baseline Subtracted Curve Fit[2)]
Applied Biosystems™ 7500 Standard	Auto	Auto

[1)] *If appropriate, auto calculated threshold with default background based threshold settings can be used: Cycle range: 5 thru 9; Sigma multiplier: 10.*

[2)] *Always apply fluorescence drift correction*

- If the threshold is set incorrectly in automatic mode, adjust it manually.
- For orientation the amplification curve of the positive control should be used.
- The threshold should be set at the beginning of the exponential phase of this curve.

When using the FastFinder software for automated data evaluation, no manipulation of the threshold and/or baseline settings are necessary.

For further details regarding use and data evaluation with FastFinder, please refer to the separate short guide “FastFinder for BACGene kits”.

Note: The following steps are only necessary when data evaluation is done using the cycler software.

3.1 Export of Raw Data

For raw data export please follow the instruction in the corresponding cycler analysis software.

3.2 Evaluation of Results

The following tables provide an overview of the criteria to evaluate the run files:

Control evaluation

Control type	SARS-CoV-2 (N1/N2)	Overall results
Positive control (C^+)	25 ≤ Cq ≤ 34	Valid
	Cq < 25	Invalid*
	Cq > 34	Invalid*
Negative control (C^-)	Cq ≥ 40	Valid
	Cq < 40	Invalid*

**Check amplification curve for sigmoid amplification signals, software background calculation and threshold settings*

In case you included a negative extraction control in your analyses, scoring of single targets is performed as described for regular samples (see below). The negative extraction control is considered as valid, if it is negative for SARS-CoV-2 (N1/N2) and valid for the Extraction Control (EC).

Scoring of samples

Target name	Cq result	Target specific results
SARS-CoV-2 (N1/N2)	Cq ≤ 40	Positive
	Cq > 40	Compare to negative control. Check amplification, software background calculation and threshold settings.
	No Cq	Negative
Extraction Control (EC)	Cq Sample ≤ 35	Valid
	Cq Sample > 35 or No Cq	Extraction failed or sample inhibited.

Final result interpretation for qualitative screening assay RT-qPCR system (including Extraction control MS2 phage)

Preliminary Target Result	Extraction control	Final results	Result interpretation	Next Steps
Positive for SARS-CoV-2 (N1/N2)	Not relevant	Positive for SARS-CoV-2 (N1/N2)	SARS-CoV-2 specific N1/N2 target RNA detected.	n/a
Negative for SARS-CoV-2 (N1/N2)	Valid	Negative for SARS-CoV-2 (N1/N2)	No detection of SARS-CoV-2 specific N1/N2 target RNA. Sample does not contain detectable amounts of specific N1/N2 target RNA.	n/a
Negative for SARS-CoV-2 (N1/N2)	Invalid	Inhibited RT-qPCR or extraction failed	No evaluation possible	Test 1:10 dilution of RNA extract of undiluted sample. As option: test also 1:5 dilution of RNA extract of undiluted sample. If 1:10 dilution is still inhibited, repeat RNA extraction of the sample. For using the option: If both dilutions (1:10 and 1:5) are still inhibited, repeat RNA extraction of the sample.1)

Please note: Duplicates should be tested according to ISO 15216. The interpretation of results of duplicated samples is described in Table "Result interpretation for sample duplicates".

Result interpretation for sample duplicates

Replicate 1	Replicate 2	Final Result
Positive for SARS-CoV-2 (N1/N2)	Positive for SARS-CoV-2 (N1/N2)	Positive for SARS-CoV-2 (N1/N2)
Positive for SARS-CoV-2 (N1/N2)	Negative for SARS-CoV-2 (N1/N2)	Positive for SARS-CoV-2 (N1/N2)
Negative for SARS-CoV-2 (N1/N2)	Positive for SARS-CoV-2 (N1/N2)	Positive for SARS-CoV-2 (N1/N2)
Negative for SARS-CoV-2 (N1/N2)	Negative for SARS-CoV-2 (N1/N2)	Negative for SARS-CoV-2 (N1/N2)

4 REFERENCES

1. van Doremalen *et al.*, “Aerosol and Surface Stability of SARS-CoV-2 as Compared with SARS-CoV-1”, Correspondence, New England Journal of Medicine, 17.03.2020, DOI: 10.1056/NEJMc2004973
2. Corman *et al.*, “Detection of 2019 novel coronavirus (2019-nCoV) by real-time RT-PCR“, Eurosurveillance, Volume 25, Issue 3
3. World Health Organization, “Surface sampling of coronavirus disease (COVID-19): A practical “how to” protocol for health care and public health professionals“, Version: 1.1, February 2020, www.who.int
4. World Health Organization, “Laboratory testing for coronavirus disease (COVID-19) in suspected human cases”, Interim guidance 19.03.2020, www.who.int

5 PRODUCT WARRANTIES, SATISFACTION GUARANTEE

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6 PRODUCT USE LIMITATIONS

This kit is developed, designed, and sold for research purposes only. It is not to be used for diagnostic purposes unless expressly cleared for that purpose by the competent regulatory authorities in the country of use. All due care and attention should be exercised in the handling of the materials described in this text.

7 IMPORTANT NOTES

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TECHNICAL SUPPORT SERVICE

For technical assistance and more information please contact the Eurofins GeneScan Technologies GmbH Customer Service or your local distributor.

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