ender

enderMASS

# Instruction for Use

# Summary

The ender MASS is an in-vitro diagnostic test kit based on a rapid molecular isothermal nucleic acid amplification technology [1] and a greatly simplified sample preparation procedure as compared to ender LAB. It is intended for the qualitative detection of nucleic acid ORF-1a gene sequence from the SARS-CoV-2 viral RNA [2] in direct nasal, nasopharyngeal or throat swabs from individuals who are suspected of COVID19 by their healthcare provider. The test is performed on standard Real-Time Polymerase Chain Reaction (RT-PCR) cyclers (further specification details see below). The ender MASS test kit identifies SARS-CoV-2 RNA in clinical samples. The SARS-CoV-2 RNA is generally detectable in respiratory samples during the acute phase of infection [3]. Positive results are indicative of the presence of SARS-CoV-2 RNA; clinical correlation with patient history and other diagnostic information is necessary to determine patient infection status. Positive results do not rule out bacterial infection or coinfection with other viruses. Negative results do not preclude SARS-CoV-2 infection and should not be used as the sole basis for patient management decisions. Negative results should be considered in the context of a patient's recent exposures, history and the presence of clinical signs and symptoms consistent with COVID-19. The ender MASS test kit is intended for use by medical professionals or trained operators who are proficient in using RT-PCR cyclers and standard molecular biological laboratory procedures.

# Contents

# General Information

## Intended Use

ender MASS is a qualitative in vitro diagnostic test, based on isothermal nucleic acid amplification technology and intended for the qualitative detection of SARS-CoV-2 in human naso- and oropharyngeal swab specimens from individuals who are suspected of COVID-19 by their healthcare provider.

The ender MASS is an in-vitro diagnostic test kit based on a rapid molecular isothermal nucleic acid amplification technology [1] intended for the qualitative real-time detection of the SARS-CoV-2 ORF-1a gene sequence [2] in human oral rinse, nasopharyngeal, and nasal swab specimens from individuals suspected of COVID-19 by their healthcare provider or for screening of infectious individuals in single or pooled sample testing. The test can be carried out manually or in a semi-automated manner with liquid handling robots. The kit contains the lysis buffer, enzyme and primer mix for isothermal nucleic acid amplification.

Positive results are indicative of the presence of SARS-CoV-2 RNA; clinical correlation with patient history and other diagnostic information is necessary to determine patient infection status. Furthermore, positive results do not rule out bacterial infection or co-infection with other viruses.

Negative results do not preclude SARS-CoV-2 infection and should not be used as the sole basis for patient management decisions. Negative results must be combined with clinical observations, patient history, recent exposures, and epidemiological information.

For in vitro diagnostic use by qualified and trained clinical laboratory personnel specifically instructed and trained in the techniques of real-time PCR.

## Test Principles

The specimens are first treated with the Lysis Buffer provided and then thermolyzed. 8 µL of the thermolyzed specimen are added to the reaction mix consisting of enzyme and primer mix. The amplification reaction is subsequently carried out in a real-time PCR cycler. The amplification reaction takes place at a constant temperature of 65 °C. No thermal cycling is required since the polymerase harbors a helicase activity. Thus, primer binding and amplification happen instantaneously and continuously. A separate reverse transcription step is not required due to reverse transcription activity of the enzyme used. Reverse transcribed and amplified DNA is detected by a fluorescent DNA-intercalating dye. After isothermal amplification a melting curve analysis is performed to distinguish the SARS-CoV-2 amplicon from the included internal amplification control (IC).

The two targets are identified based on their melting temperature. The required total reaction time is 37 minutes. Sample preparation does not require time-consuming RNA extraction. Instead, a simple heating and dilution step is performed to prepare the sample.

## Warning and Precautions

- The ender MASS workflow should be performed by qualified and trained staff to avoid the risk of erroneous results.
- Use separate areas for the preparation of reaction mix, patient's samples, addition of controls and amplification to prevent false positive results.
- Specimens and reagents must be handled under a laminar airflow cabinet hood or biological safety cabinet.
- Specimens should always be treated as if infectious and/or biohazardous in accordance with safe laboratory procedures.
- Necessary precautions must be taken when handling specimens. Use personal protective equipment (PPE) consistent with current guidelines for the handling of potentially infectious specimens.
- Always use pipette tips with aerosol barriers. Tips must be sterile and free from DNases and RNases.
- Do not eat, drink, smoke, or apply cosmetic products in the work areas.
- Do not use the kit after the expiry date.
- Dispose of waste in compliance with the local regulations.
- Positive results are indicative of the presence of SARS-CoV-2 RNA.
- Discard all used materials in accordance with all local, regional, and national regulations.

## Material Provided

| Color of cap / Symbol | | Components | REF EM16S | REF EM16L |
|---|---|---|---|---|
| Total number of tests | | | 80 | 400 |
|  | 1 | Blue cap | Primer | 2 x 160 µL | 10 x 160 µL |
|  | 2 | Green cap | Enzyme | 2 x 1200 µL | 2 x 1200 µL |
|  | lys | Green cap | Lysis Buffer | 2x 1600 µL | 2 x 1600 µL |
|  | CONTROL + | Red cap | Pos control | 1 x 40 µL for 5 runs | 1 x 40 µL for 5 runs |

## Components

| | | |
|---|---|---|
| Tube | 1 | (blue cap): Primer mix including primers for SARS-CoV-2 and the internal control (IC) (non-hazardous) |
| Tube | 2 | (blue cap): Primer mix including primers for SARS-CoV-2 and the internal control (IC) (non-hazardous) |
| Tube | lys | (green cap): Amplification enzyme (non-hazardous) |
| Tube | CONTROL + | (red cap): Positive control (non-infectious, non-hazardous plasmid) |

## Material Required but not Provided

- Nasopharyngeal or Nasal swabs
- Negative control: use H2O of molecular grade (not provided with the test kit)
- Transport media
- Negative control: H2O of molecular grade
- 2.5 mL sterile sodium chloride solution (0.9 % NaCl)
- CE-marked specimen collection kit
- 1.5 mL reaction tubes
- 96-well plates for the lysis step (fitting thermal shaker; > 0.2 mL for closable systems or > 1.2 mL for open systems)
- Plasticware recommended by real-time PCR thermocycler manufacturer (i.e. 96-well plate)
- Ice or adequate cooling blocks to keep specimens and reagents cold during preparation
- Vortex
- 96-well plate thermal shaker
- Tabletop centrifuge
- 96-well plate centrifuge
- Biosafety cabinet Class II (BSL 2 cabinet)
- Adjustable micropipets and sterile pipet tips
- rtPCR thermocycler programmable to the above-mentioned specifications
- LightCycler 480 (Roche Diagnostics)
- LightCycler 96 (Roche Diagnostics)

## Reagent Storage and Handling

The components of the ender MASS kit should be stored in the dark at –25 °C to –15 °C. Once thawed, Lysis Buffer and primer mix can be stored at 4 °C for up to 7 days. Repeated thawing and freezing should be avoided. Use the reagents only until the expiry date indicated on test kit packaging.

## Specimen Collection, Transport and Handling

Use swab specimen collection kits released for sample collection in the upper respiratory tract using UTM or Amies buffer for storage and transport of samples until processing. Transport media containing Guanidine-thiocyanate will inhibit the amplification reaction and cannot be used. Follow the instructions for use provided by the manufacturer of the specimen collection kit.

Transport the specimens according to the local regulation. The specimen can be transported at room temperature not exceeding 35 °C and analysis is recommended within 72 hours. Studies indicate stability of the specimens for 14 days at room temperature. For long-term storage specimens should be frozen at–20 °C or –80 °C.

# Assay

## Manual Assay Procedure

### Preparation of the Lysis Buffer

We recommend aliquoting the lysis buffer into 40 µL aliquots (steps 1. and 2.) upon arrival of the kit.

1. Mix the lysis buffer (tube «lys» with yellow lid) well by vortexing.
2. For each sample to be analyzed, pipet 40 µL of the lysis buffer into each well of a 96-well plate. Use a pipet tip with a big opening (e.g. 1000 µL pipet tip). Important: to have all components of the lysis buffer in solution, vortex the «lys» tube quickly after every 5 samples.
3. Visually inspect the plate to ensure that all wells contain the same volume.
4. Add 100 µL of the sample.
5. Heat for 2 min at 95°C in a thermoshaker, shaking at full speed.
6. Immediately place the sample on ice and quickly add the sample to the prepared master mix (see below).

**Tips for Specimen Preparation:** It is possible to aliquot the Lysis Buffer into 25 µL aliquots ahead of the run. Aliquots can be stored in closed reaction tubes or in wells of a plate sealed with an adhesive foil or in an airtight box (to avoid contamination and evaporation) for up to 24 hours at room temperature or at 4°C.

### Preparation of the Reaction Mix

Calculate the number of reactions required, including all controls. Add 10% to include a safety margin accounting for loss during pipetting. Use reaction disposables as recommended by the RT-PCR machine manufacturer. It is recommended to use RNase and DNase free plasticware and work on ice for the reaction set-up.

Procedure per one specimen and reaction: prepare the reaction mix in the following order:

1. Add 30 µL of enzyme (tube 2 with green lid).
2. Add 8 µL $H_2O$ of molecular grade.
3. Pipet 4 µL of primer mix including internal control (tube 1 with blue lid).
4. Add 8 µL of the prepared sample of a specific specimen.

Treat each specimen in a separate reaction. Positive and negative control preparation: Each run must include a positive and negative control.

**Note:** Calculate the total amount of each reagent needed including all samples and controls and assemble a primer and enzyme master mix of 1), 2) and 3). Vortex thoroughly and ccentrifuge < 10 seconds at 1000g. Aliquot 42 µL of the master mix into each reaction vessel and add 8 µL of the prepared sample or controls, each with a fresh pipette tip. Measure a positive and negative control in each collective run on the RT-PCR cycler by using 8 µL of the positive control solution and $H_2O$ of molecular grade instead of the prepared sample solution, but including all other reagents as outlined in 1), 2) and 3) above.

Following preparation of all reactions, place the reactions in the RT-PCR machine. Isothermal amplification and melting curve analysis according to the following program in Roche LC480 and Roche LC96 cycler:

## Thermolysis of the Specimen

1. Preheat the thermal shaker to 95 °C.
2. Vortex each specimen and transfer 100 µL to the lysis plate containing the 40 µL Lysis Buffer prepared as described above (Preparation of the Lysis Buffer).
3. Seal the lysis plate with a foil (use the recommended plate provider's suggestion).
4. Incubate for 2 min at 95 °C on a thermal shaker, while shaking at least at 600 rpm.
5. Centrifuge < 10 seconds at 1000g the plate to remove liquid from the plastic seal and the walls.
6. Immediately place the lysis plate on a cooling block or on ice.

## Preparation of the Amplification

Isothermal amplification and melting curve analysis according to the following program:

1. 30 minutes at 65 °C, collecting fluorescence data once per minute.
2. apply a temperature gradient from 80 °C to 90 °C for assessment of the melting temperature of the amplification product, continuously recording the fluorescence.

# Automated Assay Procedure

## Preparation of the Lysis Buffer

The lysis plate can be prepared according to the manual specimen preparation procedure mentioned above. A deep-well plate of at least 1.2 mL should be used to avoid cross-contamination on the shaker of open systems. For each specimen to be analyzed pipet 40 µL of the Lysis Buffer into each well of a 96-deep-well plate.

## Preparation of the Reaction Mix

Prepare the reaction mix as described above either manually or by a liquid handling robot. The reaction mix can be stored for 2 hours at 4°C.

## Thermolysis of the Specimen

1. Vortex each specimen and transfer 100 µL to the well containing the Lysis Buffer.
2. Transfer the deep-well plate to the heating block preheated to 95 °C and shake at least at 600 rpm for 3 minutes.

**Important:** Do not exceed a period of 30 minutes between the end of the thermolysis and the transfer to the isothermal PCR reaction mix.

### Preparation of the Amplification

Isothermal amplification and melting curve analysis according to the following program:

1. 30 minutes at 65 °C, collecting fluorescence data once per minute.
2. Apply a temperature gradient from 80 °C to 90 °C for assessment of the melting temperature of the amplification product, continuously recording the fluorescence.

# Isothermal PCR Amplification Method Settings

## Thermocycle Program

The ender MASS assay is an isothermal amplification assay. Use a standard RT-PCR cycler instrument, which allows to be programmed according to the amplification and detection protocol shown below. The fluorescence signal of SYBR Green / FAM or an equivalent channel (excitation at around 470 nm, detection at around 514 nm) is recorded for each reaction during the amplification and the melting curve step.

| Function | Cycles | Temperature | Time | Acquisition |
|---|---|---|---|---|
| Amplification | 30 | 65 | 57s | single |
| Melting curve | 1 | 72 | Continuous (0.1°C/sec reading) | |
| | | 92 | | |

## Fluorescence Detection

The fluorescence signal of SYBR Green / FAM or an equivalent channel (excitation at around 470 nm, detection at around 514 nm) is recorded for each reaction during the amplification and the melting curve step. Analysis occurs after the run.

# Control Procedure

The positive control is used to ensure correct reaction mix preparation. Nucleic acid amplification signals must be observed in the FAM and HEX channels. In addition, it provides an example of the amplification curve in positive results.

The negative control (H2O), used as a contamination control, must show no amplification in the FAM and HEX channels. It provides an example of how a blank curve and background noise look without amplification.

If the results of the controls are not as expected, the following steps are recommended to investigate.

| Case | Recommendation and next steps |
|---|---|
| No amplification of the positive control in the FAM or HEX channel | A lack of amplification of the positive control in the FAM or HEX channel may be due to mishandling or omission of the positive control itself.<br>We recommend mixing the positive control well before use. Another tube of the positive control (unopened if possible) can be used as an additional positive control. Make sure that fluorescence acquisition in the FAM and HEX channel is selected. |
| Negative control (H2O) shows amplification | This might indicate a contamination that may be due to: handling mistake, contamination originating from reagents, H2O/NTC or equipment used.<br>The results obtained are compromised and the test needs to be repeated. We recommend to perform a test run with only controls to ensure that all reagents, material, and equipment are free of contamination and work as expected.<br>Once ensured that all the contamination sources are cleared, then the samples can be re-tested. |

## Interpretation of Results

To determine if a sample contains SARS-CoV-2 RNA, compare the melting temperature (Tm) to the Positive and Negative Assay Controls. Ct values of the amplification curves are not relevant for the discrimination between a positive and a negative result. A positive, sigmoid amplification curve indicates the correct amplification of either the SARS-CoV-2 target sequence or the internal control (IC). If no sigmoid amplification curve is present the test has to be considered invalid due to inhibition or false handling. In this case, the sample has to be re-tested.

If the Tm of the sample corresponds to the Tm of the Negative Assay Control ±0.5 °C, it is considered SARSCoV-2 RNA negative. In this case, the Internal Control was amplified. On the Roche LightCycler 96, the Tm of the IC is around 83.0 °C, on your instrument the Tm might be slightly different, please take down that value for reference to your samples.

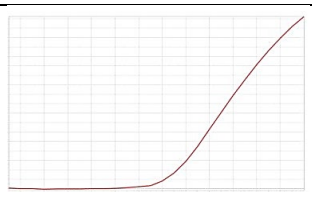
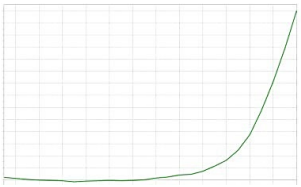
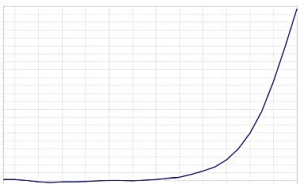
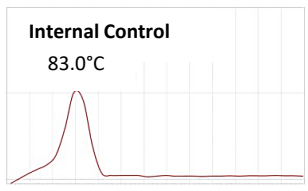
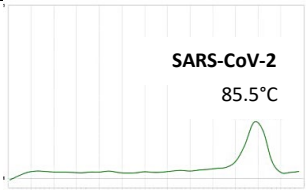
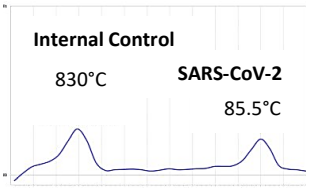
If the Tm of the sample is between -0.5°C and +1.0 °C of the positive assay control, the sample is considered SARS-CoV-2-positive. On the Roche LightCycler 96, the Tm of SARS-CoV-2 is around 86.0 °C, on your instrument the Tm might be slightly different.

Samples with a low amount of SARS-CoV-2 RNA may show two melting peaks, one for the SARS-CoV-2 RNA target and one for the Internal Control. This result still has to be considered SARS-CoV-2 positive.

Interpret the results according to the table below:

| Tm sample | control | Status | Result | Next steps |
|---|---|---|---|---|
| -0.5°C and +1.0 | negative | Valid | negative | Report result |
| -0.5°C and +1.0 | positive | Valid | SARS-CoV-2 detected | Report result |
| Two signals | pos/neg | Valid | SARS-CoV-2 detected | Report result |
| no amp | no amp | Invalid | NA | The specimen has inhibited the reaction.<br>Repeat the assay if no valid result is obtained request a new specimen. If the repetition is invalid, report the specimen as invalid |

The following graphs show the interpretation of results of Patient Specimen. Amplification curves (top) and Melting temperatures (bottom) of a I) negative sample: amplification of the internal control (IC), II) positive sample: amplification of the target sequence of the SARS-CoV-2 ORF-1a gene and III) Weak positive sample: amplification of the target sequence and the internal control.

| | I) Negative Sample | II) Positive Sample | III) Weak Positive Sample |
|---|---|---|---|
| **Amplification curve** |  |  |  |
| **Melting curve** |  |  |  |

# Performance

## Analytical Performance

### Analytical Sensitivity

The analytical sensitivity or limit of detection (LOD) is the ability of the ender MASS assay to detect the lowest concentration of SARS-CoV-2 RNA at least 95 % of the time. It was determined by testing a dilution series of Seracare, AccuPlex SARS-CoV-2 Verification Panel- Full Genome, 0505-0168. Results are expressed- sed in copies of RNA per µL mixed into negative nasopharyngeal clinical sample matrix. For each of the following concentrations of the AccuPlexTM SARS-CoV-2 Verification Panel, 20 replicates were tested: 70 copies/µl ,60 copies/µl and 50 copies/µl. The validation studies were performed on one qPCR instrument (Roche LightCycler LC96). A bridging study to demonstrate similar analytical performance was conducted on an additional qPCR instrument Roche LC480.

| **LightCycler 96 (Roche Diagnostics)** | | | |
|---|---|---|---|
| Copies RNA / µL saliva | 70 | 60 | 50 |
| Positive Results | 20 / 20 | 20 / 20 | 17 / 20 |

| **LightCycler 480 (Roche Diagnostics)** | | | |
|---|---|---|---|
| Copies RNA / µL saliva | 70 | 60 | 50 |
| Positive Results | 20 / 20 | 6 / 6 | 20 / 20 |

### Analytical Specificity

An in-silico inclusivity analysis was performed by aligning all primer sequences against a data set of SARS-CoV-2 sequences deposited at GISAID on August 24, 2020. A total of 1756 sequences from 7 phylogenies/strains from the GISAID database were evaluated in this study. sequences. Greater than 99% of sequences analyzed exhibited no mismatches to the primers.

To exclude cross-reactivity of the ender MASS primer system with other human respiratory pathogens, an in-silico specificity study was performed by blast analysis (95% homology criteria) of each primer sequence against sequences of human respiratory pathogens. This assessment showed no sequence homology with SARS coronavirus, other coronaviruses, and MERS coronavirus genome for the ender MASS primer. In addition, wet testing was also performed to evaluate the ender MASS test performance. The wet lab testing study was performed by using leftover clinical samples that are previously tested positive for other human respiratory pathogens by FilmArray. The original test report of FilmArray does not contain the information of concentrations of these cross-reactants. Thus, evaluation of cross-reactivity was done on confirmed positive clinical samples.

Cross-reactivity studies were performed and show that the ender MASS test does not react with related pathogens that are likely to be encountered in the clinical specimen. List of pathogens analyzed in silico and *wet lab tested included:

| **Microorganisms from same genetic family** | **High priority organisms likely present in respiratory specimens** |
|---|---|
| **Human coronavirus 229E* | **Adenovirus* |
| *Human coronavirus OC43* | *Human Metapneumovirus (hMPV)* |
| *Human coronavirus HKU1* | *Parainfluenza virus 1-4* |
| **Human coronavirus NL63* | **Influenza A* |
| SARS-coronavirus | **Enterovirus* |
| MERS-coronavirus | **Respiratory syncytial virus* |
| | **Rhinovirus* |
| | **Chlamydia pneumoniae* |
| | *Haemophilus influenzae* |
| | *Legionella pneumophila* |
| | *Mycobacterium tuberculosis* |
| | *Streptococcus pneumoniae* |
| | *Streptococcus pyogenes* |
| | **Bordetella pertussis* |
| | **Mycoplasma pneumoniae* |
| | *Pneumocystis jirovecii (PJP)* |
| | *Candida albicans* |
| | *Pseudomonas aeruginosa* |
| | *Staphylococcus epidermis* |
| | *Streptococcus salivarius* |

*Indicates cross-reactivity was also analyzed using wet lab testing

**Endogenous Interference Substances Studies:**

A study was executed to determine the effect of endogenous and exogenous potentially interfering substances that may be present in a clinical sample on the performance of the ender MASS test. Each potential interfering substance was mixed into negative nasopharyngeal clinical matrix and ender MASS lysis buffer, then samples were thermal lysis (heated it up 95°C for 2 minutes on thermal shaker, full speed) and ender MASS test was run on Roche LightCycle 96 according to the protocol. 240 copies/ul of purified RNA of SARS-CoV-2 RNA control (Vircell, ESP, Ref. MBC137-R) was also spiked into samples after thermal lysis step as positive samples and ender MASS test was run.

The substances, concentrations and results are listed below. The ender Mass is a test using the specimen volume of 100 µl and a final maximum of 140 µl resulting in a final maximum concentration post-elution of 7% (v/v) (10 µl of each substance). None of the substance tested for interference impacted the performance or results of the ender MASS test at the concentrations in the Table below.

| **Interfering substance** | **Concentration** | **Negative samples/ Positive Samples** | **#Negative for SARS-CoV-2/ #tested #Postive for SARS-CoV-2/ #tested** |
|---|---|---|---|
| oxymetazoline HCl | 50 µg/ml | 3/3 | 3/3 |
| acetylcysteinum | 2 mg/ml | 3/3 | 3/3 |
| Benzydamine | 150 µg/ml | 3/3 | 3/3 |
| Ipratropium bromide | 200 mg/ml | 3/3 | 3/3 |
| Morclofon | 1 mg/ml | 3/3 | 3/3 |
| Fluticasone furoate | 7% (v/v) | 3/3 | 3/3 |
| Ibuprofen | 2 mg/ml | 3/3 | 3/3 |
| Amoxicillin | 0.03 mg/ml | 3/3 | 3/3 |
| Acyclovir | 90 mg/ml | 3/3 | 3/3 |
| oxymetazoline HCl | 50 µg/ml | 3/3 | 3/3 |
| acetylcysteinum | 2 mg/ml | 3/3 | 3/3 |

## Clinical Performance

The clinical performance of the ender MASS was evaluated using a randomized, blinded clinical study which consisted of negative and positive clinical leftover samples (nasopharyngeal swabs collected by healthcare providers in viral transportation medium VTM or amies medium) from individuals previously determined to be negative or positive for SARS-CoV-2 using a FDA EUA authorized test.

Based on a disease prevalence of 5 %, the following values were calculated.

| Patient NP Specimens | | EUA authorized test | | | Total |
|---|---|---|---|---|---|
| | | positive | negative | inconclusive | |
| ender MASS assay on LC 480 Cycler | positive | 39 | 0 | 0 | 39 |
| | negative | 2 | 30 | 0 | 32 |
| | inconclusive | 0 | 0 | 0 | 0 |
| Total | | 41 | 30 | 0 | 71 |
| Positive percentage agreement | | 39/41= 95% (95% CI: 83.5%-99.4%) | | | |
| Negative percentage agreement | | 30/30=100% (95% CI: 88.4% - 100%) | | | |
| | | | | | |
| ender MASS assay on LC96 cycler | positive | 41 | 0 | 0 | 39 |
| | negative | 2 | 32 | 0 | 34 |
| | inconclusive | 0 | 0 | 0 | 0 |
| Total | | 43 | 32 | 0 | 73 |
| Positive percentage agreement | | 41/43= 95% (95% CI: 84.1%-99.4%) | | | |
| Negative percentage agreement | | 32/32=100% (95% CI: 89.1% - 100%) | | | |

ender MASS was validated on LightCycler 96 (Roche Diagnostics) and LightCycler 480 (Roche Diagnostics).

Other cyclers have to be validated before the use in combination with ender MASS.

## References


1. Zou L, Ruan F, Huang M, Liang L, Huang H, Hong Z, Yu J, Kang M, Song Y, Xia J, Guo Q, Song T, He J, Yen HL, Peiris M, Wu J. SARS-CoV-2 Viral Load in Upper Respiratory Specimens of Infected Patients. N Engl J Med. 2020 Mar 19;382(12):1177-1179.
2. Huber, M.; Schreiber, P.W.; Scheier, T.; Audigé, A; Buonomano, R.; Rudiger, A.; Braun, D.L.; Eich, G.; Keller, D.I.; Hasse, B.; et al. High Efficacy of Saliva in Detecting SARS-CoV-2 by RT-PCR in Adults and Children. Microorganisms 2021, 9, 642.
3. Note of the FOPH, Switzerland: https://enderdiagnostics.com/wp-content/uploads/2022/03/Covid-19_Merkblatt_zum_Pooling_von_Proben.pdf


CE IVD

In case of technical problems assistance contact information can be found on ender diagnostics ag website: www.enderdiagnostics.com

## Name and Address of Manufacturer


ender diagnostics ag, Freiburgstrasse 251, 3018 Bern, Switzerland

EC REP Obelis s.a., Bd Général Wahis, 53, B-1030 Brussels, Belgium / Tel: +3227325954

## Glossary of Symbols

The following symbols may be used for labelling purpose:

| | | | |
|---|---|---|---|
| IVD | *In vitro* diagnostic medical device | CE | CE Mark |
| LOT | Batch code | REF | Catalogue number |
|  | Number of tests/Contains sufficient for < n > tests |  | Temperature limit |
|  | Manufacturer |  | Use by date (Expiry date) YYYY-MM |
|  | Consult instructions for use | CONTROL + | Positive control |
| EC REP | Authorized representative in the European Community | | |

## Revision History

| Version | Revision Date | Description of Revision |
|---|---|---|
| V00 | 07.08.2020 | First edition |
| V01 | 17.09.2020 | Correction in quantity for the Primer |
| V02 | 10.11.2020 | Adaption of volume in of reagents and number of tubes for the assembly of the test kits<br>Addition of description of icons |
| V03 | 19.05.2022 | Information added for EC REP and contact information |