Article	Content
SL-8100-smp	20 rxn á 20µL
SL-8100-100	100 rxn á 20µL
SL-8100-1000	1000 rxn á 20µL
SL-8100-5000	5000 rxn á 20µL

Storage Conditions
Long-Term Storage at -20 °C in the dark
Short-Term Storage at 4 °C in the dark

primaDETECT SARS-COV-2

FAST 1-Step RT-qPCR Detection Kit for SARS-CoV-2 (RUO)

DESCRIPTION

Our **primaDETECT SARS-COV-2 1-Step RT-qPCR Detection Kit** is a ready-to-use kit for the detection of SARS-CoV2 via quantitative PCR. Due to its improved design of primer/probes in combination with an optimized reaction system, SARS-CoV2 detection can be as fast as 45 minutes.

SARS-CoV-2 is specifically detected via the nucleocapsid gene (N-gene).
The kit also includes an internal control to monitor the process from sample collection to qPCR.

The **primaDETECT SARS-COV-2 1-Step RT-qPCR Detection Kit** is intended for research use only and contains all components - you just need to add template RNA.

DID YOU KNOW?

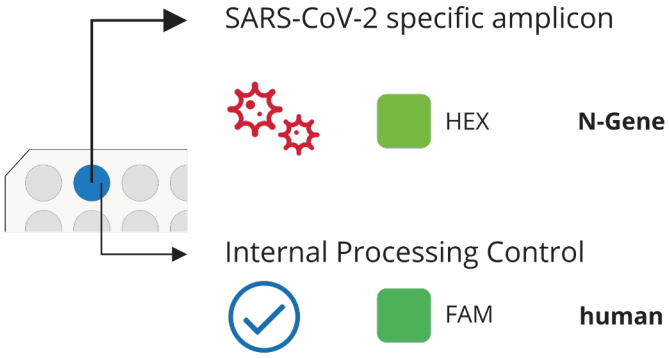
Our **primaDIRECT FAST LYSIS** buffer allows an extraction-free detection of SARS-CoV2 from swabs.

Contents

Component
2x primaDETECT One-Step Master Mix
SARS-CoV-2 Detection Primer Mix
Internal Control Mix

SARS-COV-2 DETECTION

The **primaDETECT SARS-COV-2 1-Step RT-qPCR Detection Kit** is a duplex assay. One color specifically detects the nucleopcapsid gene of SARS-CoV-2 while the second color measures an internal control to verify that the whole process from sample collection to qPCR has been technically successful.



Upon request: We can provide different dyes or color setups

Decision Table

SARS-CoV2 Target (HEX)	Internal Control (FAM)	Outcome
negative	negative	Repeat assay
negative	**positive**	**No SARS-CoV-2 detected**
positive	negative	Repeat assay
positive	**positive**	**SARS-CoV-2 detected**

Suggested Cut-Offs

Target amplification positivity is defined as the cycle of quantification (C_T or C_Q) below a certain threshold:

Target	Cutoff C_T / C_Q	Outcome
SARS-CoV-2 Target (HEX)	>36	negative
SARS-CoV-2 Target (HEX)	<36	**positive**
Internal Control (FAM)	>36	negative
Internal Control (FAM)	<36	**positive**

FAST SARS-COV-2 DETECTION PROTOCOL

BEFORE YOU START

- After thawing, please **invert the Master Mix tube 6-8 times.**
- **Do not vortex** the Master Mix to prevent damage of the enzyme.

- Prepare the reaction mixture (see page 4) without your template RNA.
- Put the reaction mixture into your plate first.
- Add the template RNA of your samples.
- Seal the qPCR plate.
- It is recommended to spin down the plate to eliminate droplets that may have formed.
- Run the qPCR according to the settings listed on page 4.
- Check the decision table on page 2 to determine the outcome.

DID YOU KNOW?

- For the extraction of clean pathogenic nucleic acids, we recommend our magnetic bead-based extraction MagSi-NA Pathogens (MDKT00210096 / MDKT00210960).
- You can eliminate the extraction time by using our **primaDIRECT FAST LYSIS** buffer, which allows sample preparation without RNA extraction or heating. Find out more on https://www.steinbrenner-laborsysteme.de .
- For higher throughput workflows, many customers use our Liquidator96® manual 96-channel pipetting system.

  Find out more on https://www.liquidator96.de .

Reaction Mixture

Components	20 µL Reaction	10 µL Reaction
2x primaDETECT Master Mix	10 µL	5 µL
Primer Mix	1 µL	0.5 µL
Internal Control Mix	1 µL	0.5 µL
Template RNA (to be added directly to the well)	1 - 4 µL	0.5 - 2 µL
Sterile Water	adjust to 20 µL	adjust to 10 µL

If your template RNA has been extracted using filter-columns or magnetic beads, we recommend using 2 µL input per well.

If you use our **primaDIRECT FAST LYSIS** buffer, the input amount depends on the storage buffer of your swab. We recommend starting with 1 µL first.

Settings for qPCR Cycler

Step	Time	Temperature
Reverse Transcription	10 minutes	50 - 55 °C
Initial Denaturation	3 minutes	92 °C - 95 °C
45 cycles		
Denaturation	5 seconds	92 °C - 95 °C
Annealing / Extension	15 seconds	60 °C

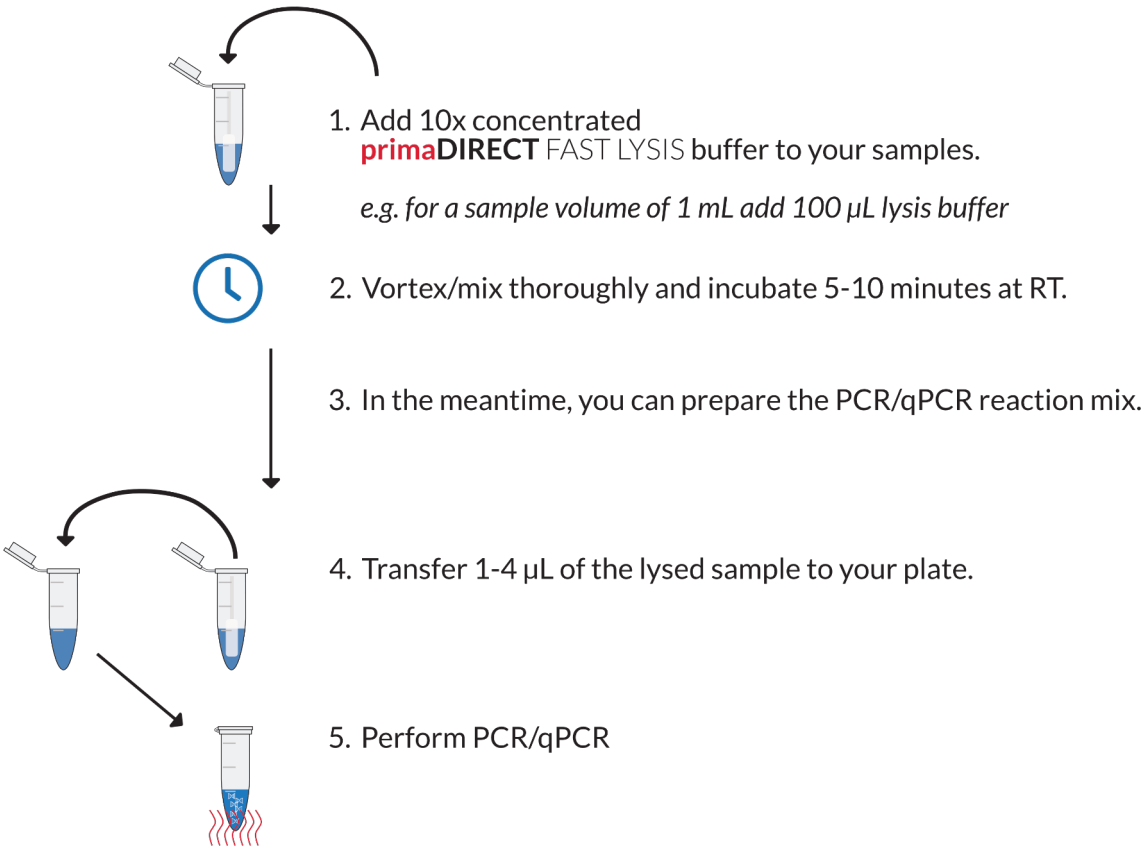
The total run time is 45-55 minutes depending on the ramping rates of your qPCR cycler.

FAST LYSIS WORKFLOW

Our **primaDIRECT FAST LYSIS** buffer system allows a fast and hazzle-free SARS-CoV-2 RT-qPCR directly from swab samples.

In combination with our direct lysis system the total run-time of SARS-CoV-2 detection workflow can be reduced to less than one hour total processing time.

For more information, please visit https://www.steinbrenner-laborsysteme.de .



1. Add 10x concentrated **primaDIRECT** FAST LYSIS buffer to your samples.

   e.g. for a sample volume of 1 mL add 100 µL lysis buffer

2. Vortex/mix thoroughly and incubate 5-10 minutes at RT.

3. In the meantime, you can prepare the PCR/qPCR reaction mix.

4. Transfer 1-4 µL of the lysed sample to your plate.

5. Perform PCR/qPCR

APPLICATIONS

- SARS-CoV-2 detection (Research use only)

QUALITY CONTROL

Our **primaDETECT** reagents undergo stringent quality controls.
Each lot is tested in a probe-based qPCR with RNA input.

Enzyme purity and homogenity of > 98 % is validated using a Bioanalyzer SDS protein electrophoresis.

All reagents are free of detectable endonuclease- & exonuclease activity:

- Incubation of 1 µg of plasmid DNA with 5 U for 4h at 37 °C and 72 °C
- Incubation of 1 µg of a DNA size standard with 5 U for 4h at 37 °C and 72 °C

FURTHER INFORMATION

For more information, please visit our website

https://www.steinbrenner-laborsysteme.de

qPCR KNOWLEDGE CENTER
http://www.qpcr-guide.com

Steinbrenner Laborsysteme GmbH

Steinbrenner Laborsysteme GmbH
In der Au 17 · 69257 Wiesenbach · Germany
Fon +49 (0)6223 8612-47
Fax +49 (0)6223 8612-48
mail@steinbrenner-laborsysteme.de
www.steinbrenner-laborsysteme.de