



ANCHOR

Inf A/B + SARS-2 PCR Kit

Instructions for Use  
ANCHOR Inf A/B + SARS-2 PCR Kit

**RUO**


Qualitative Real-Time RT-PCR Kit

For Research Use Only

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**REF** A1900

 384

 A1910-EN-2025-11-19

**QG** A1911-EN-2025-11-12

 -30°C to -15°C

 **ANCHOR** Diagnostics GmbH  
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D-22529 Hamburg

compatible with

QuantStudio 5 / QuantStudio 5 Dx (Applied Biosystems)

cobas z480 Analyzer (Roche)

CFX 96 Deep Well Dx / CFX Opus 96 Dx (Bio-Rad)

Rotor-Gene Q (QIAGEN)

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## 2 ▶ Product Description

The ANCHOR Inf A/B + SARS-2 PCR Kit is a Real-Time PCR technology-based test for the reverse transcription, amplification, detection and differentiation of Influenza A (MP gene), Influenza B (NP gene) and SARS-CoV-2 (S gene & N gene) specific genomic RNA segments.

In addition, a heterologous amplification system (Internal Control) is included to supervise the success of the sample extraction procedure and to identify possible inhibition of the amplification reaction.

Probes linked to distinguishable fluorescent dyes enable the parallel detection of Influenza A, Influenza B and SARS-CoV-2 specific nucleic acids and the Internal Control in four corresponding detector channels of the real-time PCR instrument.

The Positive Control contains a defined concentration of synthetic RNA bearing the Influenza A, Influenza B and SARS-CoV-2 target sequences. It is used together with the Negative Control RNA to monitor the integrity of the analyte-specific reagents of the kit and the proper performance of the reaction.

## 3 ▶ Kit Components

Master A and Master B reagents contain all necessary components (PCR buffer, Polymerase and Reverse Transcriptase, magnesium ions, dNTPs, primers, and probes) to allow RT-PCR-mediated reverse transcription, amplification and target detection of Influenza A, Influenza B and SARS-CoV-2 specific RNA and Internal Control in one reaction setup.

The PC (Positive Control) Inf A/B + SARS-2 and NC (Negative Control) RNA are supplied with the IC (Internal Control) RNA already incorporated (see also section 8.2.1 Master Mix Set-Up).

The reagents provided with the kit allow the preparation of 384 reactions.

Kit component	Mat. no.	No. of vials	Quantity	Ingredients
<b>Master A Inf A/B + SARS-2</b>	A1901	4 vials	4x 480 µL	Buffer, bovine serum albumin, polymerase
<b>Master B Inf A/B + SARS-2</b>	A1902	4 vials	4x 480 µL	Buffer, salt, nucleotides, target- and IC-specific oligonucleotides
<b>IC RNA</b>	AD00022R	4 vials	4x 1000 µL	Buffer, IC-specific synthetic polynucleotide
<b>PC Inf A/B + SARS-2*</b>	A1903	1 vial	200 µL	Buffer, target- and IC-specific synthetic polynucleotide, IC-specific synthetic polynucleotide
<b>NC RNA*</b>	A00023R	1 vial	200 µL	Buffer, IC-specific synthetic polynucleotide

\* INTERNAL CONTROL INSIDE !

#### 4 ▶ Storage and Stability

- The ANCHOR Inf A/B + SARS-2 PCR Kit is shipped on dry ice and should be stored at -30 to -15°C upon receipt.
- Store Influenza A and B as well as SARS-CoV-2-positive and/or potentially positive material separated from the kit.
- Repeated thawing and freezing of the Master reagents of > 3x should be avoided, as this may reduce the assay performance.
- For the PC Inf A/B + SARS-2, the NC RNA and the IC RNA, thawing and freezing cycles up to 4x are allowed. Alternatively, storage between +2 to +8°C for up to 14 days is possible.
- Due to the components used it might be possible that Master vials do not always freeze completely after initial thawing. This is not a matter of concern and does not influence the stability or performance of the assay.
- If the reagents are to be used only intermittently, they should be frozen in aliquots. Label aliquots clear and unambiguously to avoid a mix-up of reagents.
- During PCR set up the reagents should be kept cooled at +2 to +8°C – use a cooling block.
- Do not store Master A and Master B Inf A/B + SARS-2 more than 3 h at +2 to +8°C.
- Protect all reagents from extensive light exposure.

#### 5 ▶ Material Required but Not Provided

- Nucleic acid purification system
- Real-time PCR instrument
- Appropriate PCR reaction vessels and related accessories
- Cooling block (for reaction setup)
- Benchtop centrifuge (rotor holding 2 mL reaction tubes)
- Vortex mixer
- Pipettes (variable volume)
- Single-use pipette filter tips
- 1.5 mL or 2 mL reaction tubes (for Master Mix set-up)
- Single-use gloves (powder-free)

Use all materials and equipment according to the manufacturer's instructions. Maintain and calibrate the equipment as recommended.

#### 6 ▶ Limitations

- Strict compliance with the user manual is required for optimal PCR results.
- The presence of PCR inhibitors may cause invalid results.
- Occurrence of mutations within the target region might result in a reduced sensitivity or a complete detection failure.
- Following good laboratory practices is crucial for the successful usage of the product.
- Appropriate handling of the reagents is essential to avoid contaminations or impurities.

## 7 ▶ Warnings and Precautions

- For research use only.
- Use of this product is limited to personnel specially instructed and trained in the techniques of real-time PCR.
- Specimens should always be treated as potentially infectious and/or as biohazardous material in accordance with safe laboratory procedures.
- Wear protective single-use gloves, a laboratory coat and eye protection when handling specimens or kit components.
- Avoid microbial and nuclease (DNase/RNase) contamination of the specimen and the components of the kit.
- Always use DNase/RNase-free single-use pipette tips with aerosol barriers.
- Use separated working areas for (1) specimen preparation, (2) PCR reaction set-up and (3) amplification/detection activities.
- Dedicate supplies and equipment to the separate working areas and do not move them from one area to another.
- Do not open the reaction tubes/plates post amplification, to avoid contamination with amplicons.
- Discard sample and assay waste according to your local safety regulations.



## 8 ▶ Workflow

### 8.1 ▶ Sample Preparation

#### 8.1.1 ▶ Nucleic Acid Purification

Purified RNA is the sample input material for the ANCHOR Inf A/B + SARS-2 PCR Kit. It has to be ensured by the user that the chosen nucleic acid purification system is compatible with real-time PCR technology. Extract the nucleic acids according to the manufacturer's instructions.


#### PLEASE NOTE

-  If sample eluates are not directly used for PCR analysis, store eluates at -30 to -15°C. In case of using eluates repeatedly, avoid frequent thaw/freeze cycles (no more than 3 cycles).
-  Eluates should be labeled clearly and unambiguously to avoid a mix-up of samples.

#### 8.1.2 ▶ Internal Control

The Internal Control RNA provided with the ANCHOR Inf A/B + SARS-2 PCR Kit should be co-purified with the nucleic acid of interest to monitor sample preparation efficiency and quality.

#### PLEASE NOTE


-  The Internal Control RNA MUST NOT be added directly to the sample.

Always add the Internal Control RNA after lysis buffer has been added to the sample. The required volume of Internal Control RNA per sample purification is defined by the chosen elution buffer volume. Ten percent of the elution buffer volume used should be added to the sample/lysis mixture.

Examples:

- Elution buffer per sample: 200 µL → IC RNA volume: 20 µL
- Elution buffer per sample: 60 µL → IC RNA volume: 6 µL


**PLEASE NOTE**

 Secure the elimination of residual ethanol before elution of nucleic acids. Ethanol may inhibit the amplification process.

If no co-purification of the Internal Control is planned and the IC RNA should be used only as an inhibition control of the reaction, either the amount of IC related to the used elution volume could be added to each eluate or 1.5 µL of the IC RNA / per reaction should be added to the master mix (see section 8.2.1 Master Mix Set-Up).

8.2 ▶ PCR Preparation  
8.2.1 ▶ Master Mix Set-Up

**PLEASE NOTE**

 Consider configuring the run settings of the PCR cycler software to have the instrument ready before starting the PCR reaction preparation (Refer to section 8.3 PCR Cycler Configuration).

Prepare the Master Mix step by step:

- Thoroughly thaw Master components A and B.
- Mix Master A and B by gentle pipetting or short pulse-vortexing.
- Spin Master A and B shortly with a benchtop centrifuge to remove residual droplets from tube lids.
- According to your preferred workflow follow one of the pipette schemes below to mix Master A and B using a 1.5 mL or 2 mL reaction tube:

**IC RNA present in sample eluates – NO IC RNA added to Master Mix preparation:**

Number of reactions	1	10(+1)*	N**
Master A Inf A/B + SARS-2	5 µL (X)	55 µL	Y µL
Master B Inf A/B + SARS-2	5 µL (X)	55 µL	Y µL
<b>Volume Master Mix</b>	10 µL	110 µL	Z µL


\*10 reactions + 10%  
\*\* See formula on next page

**IC RNA to be used as inhibition control only – IC RNA added to Master Mix preparation:**

Number of reactions	1	10(+1)*	N**
Master A Inf A/B + SARS-2	5 µL (X)	55 µL	Y µL
Master B Inf A/B + SARS-2	5 µL (X)	55 µL	Y µL
IC RNA	1.5 µL (X)	16.5 µL	Y µL
<b>Volume Master Mix</b>	11.5 µL	126.5 µL	Z µL

\*10 reactions + 10%  
\*\* See formula below

**PLEASE NOTE**


 We recommend calculating for an additional volume of at least 10% to compensate potential loss during pipetting. The needed volume will be calculated by using the following formula:

$$N \times X \mu L \times 1.1 = Y$$

- N = Number of reactions
- X = Volume of component per reaction
- Y = Total volume of component
- Z = Total volume of Master Mix

- Mix prepared Master Mix well by gentle and short pulse-vortexing.
- Spin Master Mix shortly with a benchtop centrifuge to remove residual droplets from tube lids.

Use the Master Mix directly for PCR reaction set-up. Temporary storage of the Master Mix at +2 to +8°C will impact performance.

 It is recommended to test the Positive Control and the Negative Control at least once in each PCR run.

The Positive Control Inf A/B + SARS-2 and the Negative Control RNA already contain the IC RNA in a ready-to-use concentration. No addition of IC necessary!

**i** If you want to use a Master Mix preparation with added IC RNA (as inhibition control) in combination with the Positive Control Inf A/B + SARS-2 and NC RNA, be aware that the IC signal of the controls will slightly shift towards a lower CT value in comparison to the IC signal of the controls using a Master mix without additional IC.

8.2.2 ▶ PCR Reaction Set-Up

**PLEASE NOTE**

**i** Always use a cooling block for the preparation of the PCR reaction mix.

Prepare the Reaction Mix step by step:

- If previously stored frozen, thaw eluates containing nucleic acid and IC RNA thoroughly.
- Mix eluates by gentle pipetting or brief pulse vortexing
- Spin eluates shortly with a benchtop centrifuge to remove residual droplets from tube lids.
- Pipette **10 µL of Master Mix** (see section 8.2.1 Master Mix Set Up) into suitable reaction vessels for PCR analysis. This is also valid for Master Mix spiked with IC RNA
- Add **15 µL of eluate** or control ( Positive Control Inf A/B + SARS 2 or Negative Control RNA). **Mix well by repeated up and down pipetting.**
- Close reaction vessels securely with the appropriate sealing system.
- Immediately transfer closed and ready to use reaction vessels to the real-time PCR instrument. Avoid any delays!

**PLEASE NOTE**

**i** Carefully handle reaction vessels during transfer to avoid mixing up samples.

**i** Complete mixing of Master Mix reagents with a sample or control during reaction set up should be unconditionally secured by repeated up and down pipetting!

**This is essential to achieve optimum amplification curve performance.**

Master Mix	Eluate / Control	Reaction Mix
10 µL	15 µL	25 µL

8.3 ▶ PCR Cycler Configuration

The ANCHOR Inf A/B + SARS-2 PCR Kit has been evaluated in combination with the following different PCR Cycler platforms:

PCR Cycler Platform	Run Time
QuantStudio 5 / QuantStudio 5 Dx (Applied Biosystems)	≈ 30 min.
cobas z 480 Analyzer (Roche)	≈ 32 min.
CFX 96 Deep Well Dx / CFX Opus 96 Dx (Bio-Rad)	≈ 35 / 45 min.
Rotor-Gene Q (QIAGEN)	≈ 50 min.

The listed run times for the different instruments are effectively measured durations and can differ from what is displayed on the graphical user interface of the individual instrument software. For basic information concerning set up and programming of the respective real-time PCR instrument, refer to the instrument specific manual.

8.3.1 ▶ Temperature Profile

Temperature cycling profile for **QuantStudio 5, QuantStudio 5 Dx, cobas z 480 Analyzer, CFX96, CFX Opus 96, and Rotor-Gene Q:**

<b>Hold</b>	50°C	120 sec	x 1
<b>Cycling</b>	95°C	1 sec	x 40
	65°C *	2 sec	
	72°C	1 sec	

\*Fluorescence acquisition for SARS-CoV-2, Influenza A, Influenza B and IC

Reaction Volume: 25 µL

8.3.2 ▶ Specific PCR Cycler Settings

The following table contains PCR cycler specific recommendations for the basic configuration of the run settings. For additional information regarding the cycler settings recommended plastics, color compensation, gain optimisation settings, etc. do not hesitate to contact us directly (see section 9 Technical Assistance & Contact Information)

QuantStudio 5 / QuantStudio 5 Dx				
Target	Influenza A	IC	Influenza B	SARS-CoV-2
Detection	FAM	HEX	TEXAS RED	Cy5.5
Run Settings: <ul style="list-style-type: none"> <li>Block Type: 96-Well 0.1-mL Block</li> <li>Experiment Type: Standard Curve</li> <li>Chemistry: TaqMan Reagents</li> <li>Run Mode: Fast</li> <li>Plate attributes: Passive Reference - None</li> </ul> Consumables: <ul style="list-style-type: none"> <li>96-Well Fast Thermal Cycling Plates (Life Technologies Mat. No. 4346907)</li> <li>MicroAmp Optical Adhesive Film (Life Technologies Mat. No. 4311971)</li> <li>Well-PCR-Plate, Sk96irted, „Low Profile“ white (Starlab Mat. No. E14035209)</li> <li>Xtra-Clear Advanced Polyolefin StarSeal (qPCR) (Starlab Mat. No. E2796-9795)</li> </ul>				

cobas z 480 Analyzer				
Target	Influenza A	IC	Influenza B	SARS-CoV-2
Detection	465/510	540/580	610/645	680/700
Run Settings: <ul style="list-style-type: none"> <li>Block size: 96</li> <li>If clear plates are used, the sensor of the LightCycler® has to be disabled by selecting the Clear Plates option in the software before the run is started.</li> </ul> Consumables: <ul style="list-style-type: none"> <li>LC480 Multiwell Plate 96, white (Roche Mat. No. 04729692001)</li> <li>LC480 Multiwell Plate 96, clear (Roche Mat. No. 05102413001)</li> <li>LC480 Sealing Foil (Roche Mat. No. 04729757001)</li> </ul>				

CFX 96 Deep Well Dx / CFX Opus 96 Dx				
Target	Influenza A	IC	Influenza B	SARS-CoV-2
Detection	FAM	HEX	TEXAS RED	CY5.5
Consumables: <ul style="list-style-type: none"> <li>Hard Shell 96-well PCR Plate, white (Mat. No. HSP9655)</li> <li>Optical flat 8 Cap Strip for 0.2 mL (Mat. No. TCS0803)</li> <li>0.2 mL 8-Tube PCR Strips without Caps, low profile, white (Bio-Rad Mat. No. TLS 0851)</li> <li>8-strip optical clear flat caps (Sarstedt Mat. No. 65.1998.400)</li> </ul>				

Rotor-Gene Q				
Target	Influenza A	IC	Influenza B	SARS-CoV-2
Detection	Green	Yellow	Orange	Crimson
Run Settings <ul style="list-style-type: none"> <li>Use 72-Well Rotor</li> <li>Perform Auto-Gain optimization before 1st acquisition.</li> </ul> Consumables: <ul style="list-style-type: none"> <li>Strip Tubes and Caps, 0.1 mL (QIAGEN Mat. No. 981103)</li> </ul>				

8.4 ▶ Data Analysis

The following tables contain cycler specific references for the configuration of analysis settings They could serve as an initial orientation. Depending on local cycler and workflow related differences adaptations might be necessary.

For additional information concerning data analysis refer to the instrument specific manual of the respective real-time PCR instrument or contact us (see section 9 Technical Assistance & Contact Information).

QuantStudio 5 / QuantStudio 5 Dx
Analysis Settings (all channels): <ul style="list-style-type: none"> <li>Plot Type: ΔRn vs Cycle</li> <li>Graph Type: Linear</li> <li>Baseline Start/End: 3/15</li> </ul>

cobas z 480 Analyzer	
Analysis Settings:	<ul style="list-style-type: none"> <li>Abs Quant/Fit Points</li> <li>Color Comp (off)</li> <li>Mean</li> <li>High Confidence</li> </ul>

CFX 96 Deep Well Dx / CFX Opus 96 Dx	
Analysis Settings (all channels):	<ul style="list-style-type: none"> <li>Baseline Subtracted Curve Fit</li> <li>C(t) Determination Mode: Single Threshold</li> <li>Baseline Threshold:                             <ul style="list-style-type: none"> <li>- Baseline Cycles: Auto Calculated</li> </ul> </li> </ul>

Rotor-Gene Q	
Analysis Settings (channels Green/Yellow/Orange):	<ul style="list-style-type: none"> <li>Quantitation</li> <li>Linear Scale</li> <li>Dynamic Tube ON</li> </ul>
Analysis Settings (channel Crimson):	<ul style="list-style-type: none"> <li>Quantitation</li> <li>Linear Scale</li> <li>Dynamic Tube ON</li> <li>Slope Correct ON</li> <li>Take Off Point Adjustment ON (Default Setting)</li> </ul>

### 8.4.1 ► Qualitative Analysis

For a valid run and as a prerequisite for the interpretation of the individual sample results, the following requirements have to be met by the included kit controls:

Control	Influenza A	Influenza B	SARS-CoV-2	IC
PC Inf A/B + SARS-2	+	+	+	+
NC RNA	-	-	-	+

If one of the conditions has failed, result interpretation of the sample results might be flawed. In case of kit control failure, it is recommended to repeat the PCR run.

In case of a valid run, the following result interpretation can be made:

Qual. result	Influenza A	Influenza B	SARS-CoV-2	IC
SARS-CoV-2 RNA positive	-	-	+	+/-
Influenza A RNA positive	+	-	-	+/-
Influenza B RNA positive	-	+	-	+/-
Influenza A and SARS-CoV-2 RNA positive	+	-	+	+/-
Influenza B and SARS-CoV-2 RNA positive	-	+	+	+/-
Influenza A and Influenza B RNA positive	+	+	-	+/-
Influenza A, Influenza B and SARS-CoV-2 RNA positive	+	+	+	+/-
Influenza A, Influenza B and SARS-CoV-2 RNA negative	-	-	-	+
Invalid	-	-	-	-

A positive result for Influenza A and/or Influenza B and/or SARS-CoV-2 RNA does not necessarily require a positive signal for the IC since high concentrations of the respective target nucleic acid can result in a competitive inhibition of the IC amplification.

An invalid result for a sample can be due to PCR inhibition or a failure during the nucleic acid isolation procedure. In such cases, it is recommended to dilute the nucleic acid extract 1:10 (recommended to be done in elution buffer, if possible) for a PCR retest or to repeat the nucleic acid isolation procedure. Note that the dilution of the nucleic acid extract might also lead to a reduction of the target nucleic acid concentration below the limit of detection of the ANCHOR Inf A/B + SARS-2 PCR Kit.

## 9 ▶ Technical Assistance & Contact Information

For any questions, a need for technical assistance or if you identify difficulties using our products do not hesitate to contact us:

phone: +49 40 52 471 62 0

email: [support@anchor-diagnostics.com](mailto:support@anchor-diagnostics.com)

## 10 ▶ Symbols

 Component in Kit

 Volume per vial

 Batch code


 Number of vials

 Quick Guide - Catalog number and version

 Product - Catalog number


 For research use only

 Unique Device Identifier

 Catalog number and version  
Consult Instructions for Use

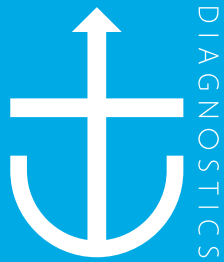
 Important Note

 Use by

 Contains sufficient reagents for <N> tests

 Temperature limits for storage

 Manufacturer



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