Coronavirus RNA extraction research kit.

Extraction protocols:

1. **Swabs in Viral Transport Medium**
2. **Sputum / Saliva Samples**
3. **Swabs without Transport Medium**

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Protocol 1: Swabs in Viral Transport Medium

NOTE 1: Use 10X Reagent 1 for this procedure

Step One

Add 900µl liquid sample to 100µl* Reagent 1 (10X concentrate) to yield 1ml of lysate

Vortex briefly

Optional: Heat lysate for 5 minutes at 60°C

Proceed to Step Two

*Suggested volume. Suitable volume should be determined empirically depending on swab type.

Step Two

Lysate should be mixed with Reagent 2 (20X concentrate) in order to prepare for testing. The volume of Reagent 2 should be optimised with suggested volumes shown below:

Lysate Volume (µl)	20X Reagent 2 volume (µl)
40	2
40	4
40	6
40	8

Material is ready for downstream molecular testing

NOTE 2: Arcis prepared samples may be added at upto 50%v/v in qPCR reactions without loss of performance

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Protocol 2: Sputum/Saliva Samples

Collect sample according to current public health authority guidelines

NOTE 1: Use 1X Reagent 1 for this procedure

NOTE 2: Viscous samples may need to be pre-liquefied to aid sample handling

Step One

Add 90µl of sample to 150µl of Reagent 1 to yield lysate

NOTE 3: The volume of sample added can be optimised. A range of sample inputs from 30-150µl is recommended i.e. 1 volume sample into 5 volumes of 1 X Reagent 1, or 1 volume sample into 1 volume of Reagent 1, see below:

Ratio	Sample Volume (µl)	Reagent 1 volume (µl)
1:5	30	150
2:5	60	150
3:5	90	150
4:5	120	150
1:1	150	150

Vortex briefly

Proceed to step 2

Step Two

Lysate should be mixed with Reagent 2 (20X concentrate) in order to prepare for testing. The volume of Reagent 2 should be optimised with suggested volumes shown below:

Lysate Volume (µl)	20X Reagent 2 volume (µl)
40	2
40	4
40	6
40	8

Material is ready for downstream molecular testing

NOTE 4: Arcis prepared samples may be added at upto 50%v/v in qPCR reactions without loss of performance

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Protocol 3: Swabs Without Transport Medium

Collect swab sample according to current public health authority guidelines

NOTE 1: Use 1X Reagent 1 for this procedure

Preparation of Reagents

NOTE 2: Use minimum sufficient volume of Reagent 1 to just cover the head of the swab, 150µl is recommended as a starting point. Non-synthetic swabs are not recommended for this procedure

NOTE 3: Reagent 1 may be pre-diluted 1 in 50 in PCR-grade water prior to use. This dilution can help overcome inhibition in downstream reactions and should be explored empirically if Reagent 1 at 1 X concentration is not giving acceptable results.

NOTE 4: Reagent 2 can be used at 20X in order to reduce dilution in Step Two of this protocol.

Step One

Add swab to 150µl* of Reagent 1, snap off shaft.

Optional: Heat sample for 5 minutes at 60°C

Optional: Pulse Vortex for 30-60 seconds

Prior to swab removal, press swab head against the side of the vessel to squeeze out any remaining lysate liquid

Proceed to Step Two

*Suggested volume. Suitable volume should be determined empirically depending on swab type.

Step Two

Lysate should be mixed with Reagent 2 (20X concentrate) in order to prepare for testing. The volume of Reagent 2 should be optimised with suggested volumes shown below:

Lysate Volume (µl)	20X Reagent 2 volume (µl)
40	2
40	4
40	6
40	8

Material is ready for downstream molecular testing

NOTE 5: Arcis prepared samples may be added at upto 50%v/v in qPCR reactions without loss of performance