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Sample reception, unpacking and barcoding

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In 1 collection

Leigh Jones¹, Philip Walker¹, Robert Goldstone¹, Simon Caidan¹

¹The Francis Crick Institute

Coronavirus Method Development Community

Crick COVID-19 Consortium

Jerome Nicod

The Francis Crick Institute

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Protocol status: Working

We use this protocol and it's working

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ABSTRACT

PROTOCOL integer ID: 36029

Keywords: covid-19, SARS-CoV-2, coronavirus, 2019-nCoV, RT-PCR

Note

This protocol is part of the [Crick COVID-19 RT-PCR Testing Pipeline](#) collection.

Safety information

This work involves handling and processing of clinical nasal or throat Swab samples from NHS staff or patients who are suspected of being infected SARS-CoV-2.

➤ This SOP is to be followed in order to avoid infection exposure to the virus

Purpose of examination / Clinical relevance

At the end of 2019, several pneumonia cases were reported in Wuhan, China and the pathogen was confirmed as a new viral strain. World Health organization has named the newly identified coronavirus as 2019-nCoV, also known as SARS-Cov-2. The disease developed into a dangerous pandemic, posing major challenges to the NHS. Although more research is necessary to better understand the virus, in response to the emergency, simple and rapid testing is essential to identify the virus in infected individuals. This will aid the implementation of efficient interventions to contain the spread, and distinguish healthcare workers who have been infected, and are required to self-isolate, from those showing similar symptoms but which are not 2019-nCoV associated. The latter category may continue to work, alleviating stress on hard-pressed healthcare resources. 2019-nCoV is an RNA virus, and the diagnostic tests detect viral RNA in swabs from patient airways using a reverse transcriptase PCR assay. Samples are submitted to HSL, an accredited reporting laboratory, and transferred to the Crick for testing. The first step of the process is sample receipt at the Crick. This SOP describes the inactivation of the virus.

Safety information

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Safety Information – routes of infection

Person-to-person spread is thought to occur mainly via

- respiratory droplets produced when an infected person coughs or sneezes or
- by contact with droplets and contaminated fomites.

Personal Protective Equipment (PPE)

The following Personal Protective Equipment (PPE) must be worn at all times in the sample receipt and processing area:

- A Howie style lab coat which must be worn at all times.
- nitrile or neoprene disposable gloves.

1 Location of sample receipt and processing area:

Clinical samples are delivered by courier and transferred to sample reception area by nominated staff.

At the Receipt station, staff will act in the following capacities:

- Sample Checker (SC)
- Barcode Operator (BO)
- Barcode Label Operator (BLO)
- Sample Sorter (SS)

Sample packaging:

Incoming sample packs arrive in a UN3373 medical carrier. They are then transferred to a really useful box.

Multiple samples are initially triple bagged

- Each sample is in 2 sample bags.
- The sample bags are grouped in a larger outer bag (the sample pack).

Registering Samples on Tube Tracker: Logging into Tube Trac..

2

Note

Tube Tracker is a software system to track the whereabouts of samples from the hospital site to the testing laboratory.

Open up the internet browser (Google Chrome) and search for the designated tube track website.

3

Click on "Logon" in the top right hand corner of the screen.

4

All users must have an individual login for the system; generic accounts must not be used.

5

Log in using the username and designated password supplied.

- 6 Once a username and password have been entered the relevant location will be visible now click on "Sign In".

Registering Samples on Tube Tracker: Unpacking the content..

- 7 Once samples arrive into the laboratory they will need to be unpacked from each bag received. Click on the icon "Unpack Box" from the main menu on the left hand side of the screen.

- 8 Scan the barcode label which should be on the outer bag into the field 'unpack box'. Always make sure the cursor is inside the field before scanning the bag barcode.

- 9 The contents of the box will appear to the right of the screen.
- 10 Begin scanning the barcodes of each individual sample to unpack and receive them. This will automatically update the sample audit trail to show when and where each sample has been received, and which user received it.
- 11 When all samples have been unpacked from the box, a message will appear to the bottom right of the screen indicating that the box is now empty.

Registering Samples on Tube Tracker: Missing samples

- 12 If there are any missing samples, for example, a sample has been scanned into the bag but is not physically in the bag then this must be marked as “missing”.
- 13 To mark samples as missing click on the following symbol that appears next to each sample number in the list. **Please ensure that the correct samples are marked as missing as once this has been clicked it cannot be undone.**

- 14 Notify the site that sent this sample so they are able to investigate what has gone wrong.

- 15 If there are any samples that are physically in the bag, but have not been tracked into the bag, the following message will appear:

Not found in the box!
Do you want to unpack anyway?
<div>No Yes</div>

- 16 Click “Yes” and the system will show on the audit trail for that sample that it has been unpacked. **Please ensure you have scanned the correct barcode before selecting yes, especially if there are other barcodes on the sample.**

Registering Samples on Tube Tracker: Reporting System issu...

- 17 There may be times when the system is slow, or error messages appear such as ‘bad gateway’. This can be due to server issues. In most cases refreshing your browser and/or logging off and logging back on can resolve these. However, if the issue persists, please report using the contacts that have been provided for escalation.

Processing of “*correct*” clinical nasal or throat swab samples..

18 Sample Checker will:

Open the really useful box of incoming samples.

19

Safety information

Risk of exposure due to damaged or leaking materials!

Without opening a sample pack bag, visually inspect the samples within it for gross leakage.

If **no leakage** seen, proceed to next step.

If **leakage** is observed

- Do not open the sample pack or remove any sample bags
- If a member of health and safety (H&S) is not already in attendance, contact health and safety immediately
- H&S will spray the sample bags with distel disinfectant
- Place the sample pack into a designated really usefull box labelled 'leaked samples'
- Place the lid on the really useful box
- Transfer the samples to the CL3 facility to disinfect and recover any remaining usable samples
- Usable samples will start at receipt stage again
- Unusable samples will be disposed of via autoclave process

20 Open a sample pack.

21 Working with one sample bag at a time, remove a sample from the sample pack.

22

Safety information

Risk of exposure due to samples eg faeces, urine and blood!

Visually inspect the individual sample bag to ensure **appropriate sample**.

If **appropriate sample** seen, select case '*Correct Sample*'.

If **incorrect sample** is observed, select case '*Incorrect Sample*'.

Step 22 includes a Step case.

Correct

Incorrect

step case

Correct

23

Safety information

Risk of exposure due to damaged or leaking materials!

Visually inspect the individual sample bag for **leakage**.

If **no leakage** seen, select case '*No Leakage*'.

If **leakage** is observed, select case '*Leakage*'.

Step 23 includes a Step case.

No Leakage

Leakage

step case

No Leakage

24

Note

It is important that the samples are clinical nasal or throat swab samples

- Incorrect samples will need to be returned (see case '*Incorrect Sample*' [⇒ go to step #22](#) above)

Check that the sample is a clinical nasal or throat swab sample.

- 25** Check that sample has a barcode label. Note the barcode should start with a two digit number followed by a letter, commonly known as an EDTA number.

- 26** Tell the barocder that it is a correct sample.

Processing of “*correct*” clinical nasal or throat swab samples..

- 27** The barcode operator will:

Scan the barcode though the sample bag twice,

- On barcode reader 1 to register sample on Clarity software
- On barcode reader 2 to allow the printing of 2 labels

- 28** Barcode reader 1 scan check

- If the barcode has been scanned successfully, the following notification should be received:

Crick Sample Reception Application

This page should let you use a barcode reader to register the arrival of swab samples into the Crick

1. Whilst using a barcode reader, ensure the below input box is highlighted
2. Scan the barcode to register the sample as received
3. A message will let you know if successful, or if there has been a problem
4. The input box will clear, ready for the next scan
 - A submit button is provided in case the barcode scanner does not automatically submit the form (it should)
 - If a sample is not recognised, it should be put to one side for returning to the Halo lab, as we currently have no way of tracking samples that have not been submitted to our LIMS

Prerequisites

- Sample information has previously been submitted to LIMS with the barcode number becoming the sample name. Samples that have not been submitted to the LIMS cannot proceed through this step

SUCCESS: PROCESSED 50U080343 : GOL743A10

Scan Samples

submit

- If the barcode scanning has failed, the following notification should be received:

- Double check correct barcode has been scanned if an EDTA number matching sample 'force' the sample through for processing
- If non EDTA number entered check sample for an EDTA number anywhere on sample pack, if there is one scan if successful send sample through for processing. If failure 'force' sample through for processing

- If no EDTA number do not force but 'reset' and send sample through process for '*Incorrect Sample*' ➡ go to step #22.

29 Barcode reader 2 scan check

Ensure that x2 barcodes (x3 barcodes if sample container has no barcode) have been produced.

30 Pass the sample to a barcode label operator.

Processing of “*correct*” clinical nasal or throat swab samples..

31 The barcode label operator will:

Advance the printer one label and cut using a scissors.

32 Staple through the unbarcoded label onto the sample bag above the zip lock as shown here.

Note

Do not staple through the main compartment of the sample bag.

Safety information

Risk of exposure through damaging the sample bag integrity!

Processing of “*correct*” clinical nasal or throat swab samples..

33 The sample sorter will:

Note

Sample & the printed barcodes must match to prevent misdiagnosis.

- The sample sorter must check the printed barcodes match with the original one in the sample bag

Place all correct samples that have been correctly labelled in a really useful box

34 Fix the lid of the really useful box once full or all samples accounted for.

The samples are now ready for transport into the CL2/3 suite for [viral inactivation](#) and a runner will transfer full incoming sample transfer boxes.