

Sep 03, 2020

# Coronavirus Lateral Flow Assay (LFA) sample preparation protocol

In 1 collection

peijun he<sup>1</sup><sup>1</sup>Highfield Diagnostics, UK

1 Works for me dx.doi.org/10.17504/protocols.io.bksfkwbm

XPRIZE Rapid Covid Testing Highfield Diagnostics

peijun he

## ABSTRACT

Coronavirus Lateral Flow Assay (LFA) sample preparation protocol

## DOI

[dx.doi.org/10.17504/protocols.io.bksfkwbm](https://dx.doi.org/10.17504/protocols.io.bksfkwbm)

## PROTOCOL CITATION

peijun he 2020. Coronavirus Lateral Flow Assay (LFA) sample preparation protocol. **protocols.io**  
<https://dx.doi.org/10.17504/protocols.io.bksfkwbm>

## COLLECTIONS ⓘ

Highfield Diagnostics COVID19 LFA Protocol

## LICENSE

————— This is an open access protocol distributed under the terms of the [Creative Commons Attribution License](https://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited

## CREATED

Sep 03, 2020

## LAST MODIFIED

Sep 04, 2020

## PROTOCOL INTEGER ID

41511


## PARENT PROTOCOLS

Part of collection

[Highfield Diagnostics COVID19 LFA Protocol](#)

## MATERIALS

NAME	CATALOG #	VENDOR
Triton X-100	93426	Sigma
DPBS 10X with Calcium and Magnesium	14-080-055	Gibco - Thermo Fischer
EDTA	ED2SS	Sigma Aldrich
Tributyl phosphate	240494	

- 1 For each clinical sample to be processed, label 1 screwcap tube with the patient's ID. Make  **400 µl** aliquots of Lysis buffer in each tube.  
  
Lysis buffer:  
**[M]1 % volume Triton X - 100 [M]0.3 % volume Tributyl phosphate** 1x complete EDTA-free  
**[M]5 Milimolar (mM) EDTA** in 1x PBS
- 2 Take out the swabs out of the  **-80 °C** freezer immediately before the analysis. Leave to thaw at RT for  **00:05:00** and insert into the respective screw-cap tube. Note: handling times within a CL3 lab may be longer than expected, so do not take the swabs out of the freezer until all tubes are properly labelled and containing  **400 µl** Lysis buffer in them.
- 3 'Plunge' each swab up and down in Lysis Buffer for  **00:15:00** , constantly 'twisting' the swab so its sides are brushed against the side of the tube. Note: Ideally, do not handle more than 3-4 swabs at a time so as to spend enough time twisting each of them to 'encourage' maximum dissociation of Nucleocapsid protein from the swab and lysis of virions.
- 4 After  **00:15:00** , discard the swabs appropriately (e.g. in a second container that will then need to be autoclaved before disposal), making sure to recover as much volume out of the swab as possible (  **100 µl** will be lost as absorbed by the swab foam) and re-cap the tube.
- 5 Samples can be tested immediately by lateral flow device or stored at  **-80 °C** for further analysis.
- 6 Lateral flow assay could be performed directly inside a CL3 lab or within a Class I cabinet after decontamination of the outside of the tubes before taking them out of the CL3 lab. For the lateral flow assay, follow the lateral flow assay operation protocol.