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## Oceanit Lateral Flow Assay (LFA) Protocol

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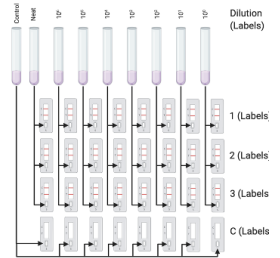
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<sup>1</sup>Oceanit Laboratories, Inc.

Dexter Poon: XPrize submission



proposals



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**Protocol status:** In development

**We are still developing and optimizing this protocol**

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**Keywords:** infectious wa1 strain of sar, infectious wa1 strain, lfa, protocol this experiment, cov2, sar

## Abstract

This experiment uses infectious WA1 strain of SARS-CoV2 and is conducted in a qualified BSL3 facility at the University of Hawaii John A Burns School of Medicine (Honolulu, Hawaii).

## Materials

### MATERIALS

- ✕ RNase A (10 mg/mL) Thermo Fisher Scientific Catalog #EN0531
- ✕ Triton X-100 VWR International (Avantor) Catalog #9002-93-1
- ✕ BSA Merck MilliporeSigma (Sigma-Aldrich) Catalog #A2153
- ✕ Gold Nanospheres - Bare (Citrate) 80nm Nanocomposix Catalog # AUCN80
- ✕ TBSTween Merck MilliporeSigma (Sigma-Aldrich) Catalog #9039-10PAK
- ✕ Sample Pad Cytiva Catalog #8134-2250

## Troubleshooting

## Oceanit Lateral Flow Assay (LFA) Protocol

### 1 Prepare Serial Dilution

This experiment uses infectious WA1 strain of SARS-CoV2 and is conducted in a qualified BSL3 facility at the University of Hawaii John A Burns School of Medicine (Honolulu, Hawaii).

### 2 Aliquot diluent solution into centrifuge tubes

Diluent solution is cell growth media supplemented with 10% FBS.

### 3 Prepare lysis buffer with LFA capture molecule

Lysis buffer containing LFA capture molecule is Oceanit's proprietary formulation.

### 4 Virus stock ( $4 \times 10^7$ pfu/mL)

Virus stock 10-fold serial dilutions.

### 5 10-fold serial dilutions and control tubes

a. Tube 1 – Neat ( $4 \times 10^7$  pfu/mL); pfu = plaque forming units

b. Tube 2 –  $10^{-1}$

c. Tube 3 –  $10^{-2}$

d. Tube 4 –  $10^{-3}$

e. Tube 5 –  $10^{-4}$

f. Tube 6 –  $10^{-5}$

g. Tube 7 –  $10^{-6}$

h. Tube 8 –  $10^{-7}$

i. Control – no virus

### 6 Add lysis buffer to dilutions

Add prepared lysis buffer to labeled individual LFA cassettes. Test and control lines are Oceanit's proprietary molecules.

### 7 Incubate 5 minutes

### 8 Add to labeled individual LFA cassettes.

Add 250uL of the corresponding sample to individual LFA cassettes.

### 9 Record results with photography:



A.Amount:

B.Concentration: Virus stock and dilution range from  $4 \times 10^7$  pfu/mL to 0 virus added.

C.Temperature: Virus stocks are stored at  $-80^{\circ}\text{C}$ ; assay is performed at room temperature.

D.Duration of the experiment: 1 hour elapsed time.

E.Equipment: BSL3 containment, Class II biological safety cabinet, autoclave, pipette and disposable tips, disposable tubes, dedicated camera.

F.Reagents: Vero E6 cell culture growth media supplemented with 10% FBS, Oceanit lysis buffer + capture molecule (proprietary), LFA embedded test and control line molecules (proprietary)