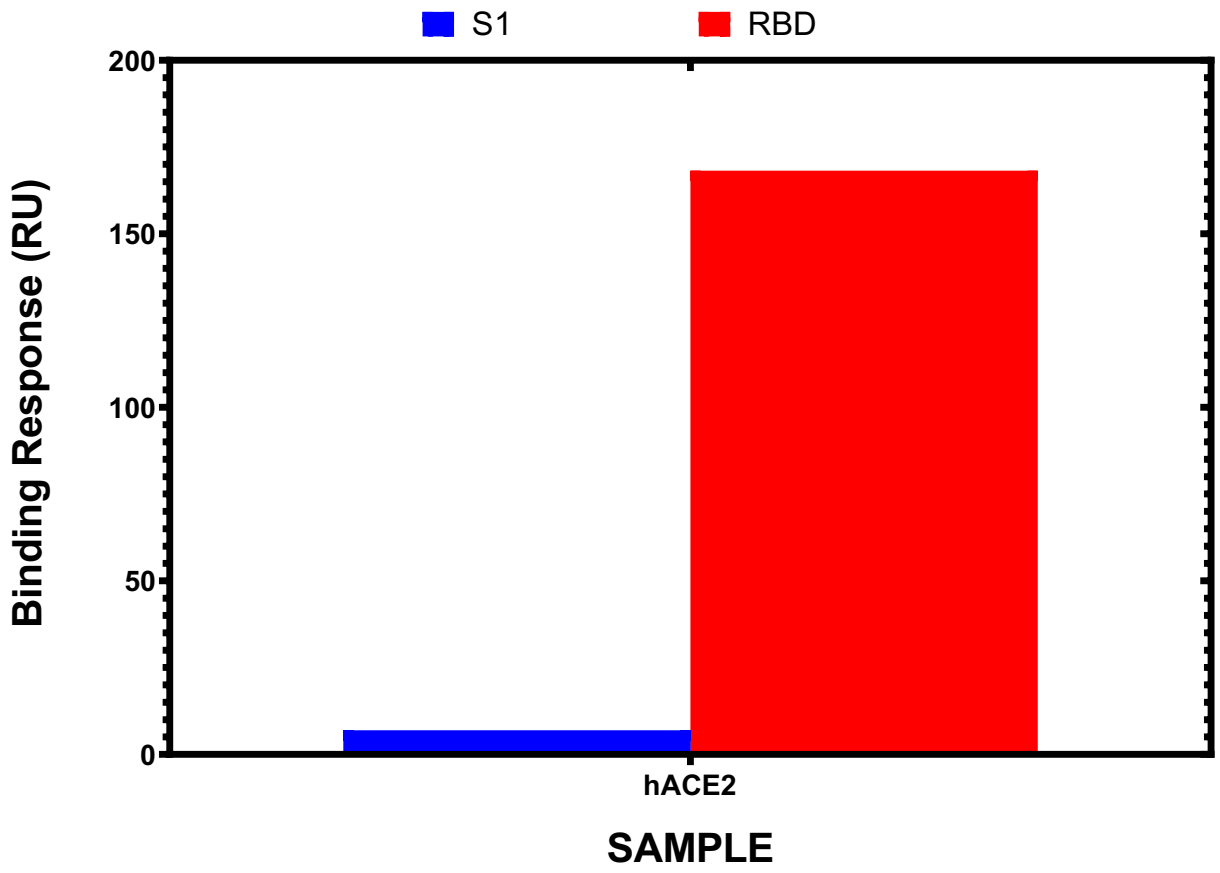
Case Study 1:

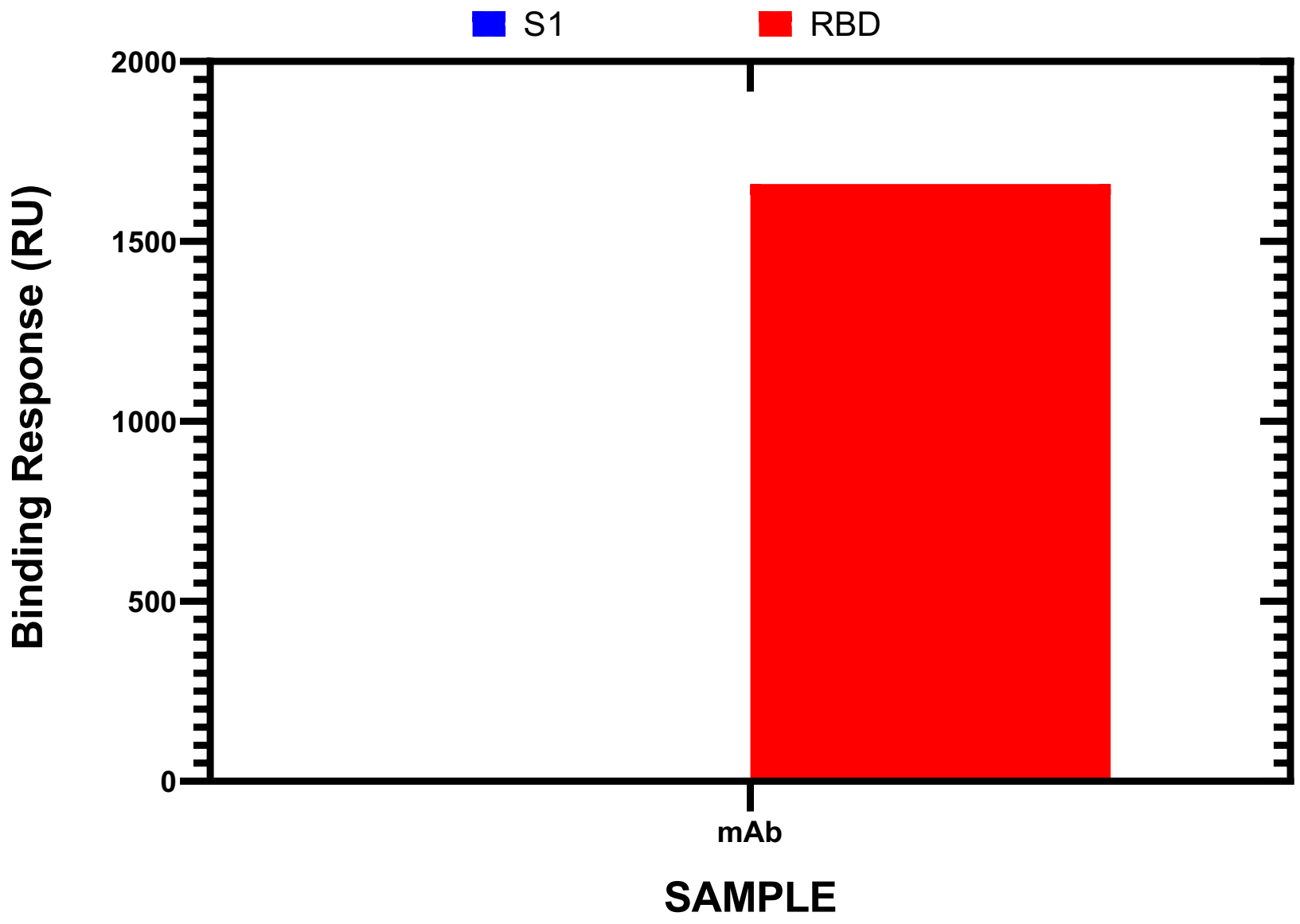
Binding of anti-SARS CoV-2 monoclonal antibody, human ACE2 and SARS CoV-2 – infected Patient Sera to Immobilized SARS CoV-2 S1 and SARS CoV-2 RBD



The low binding of S1 and hACE2 could be caused by the closed SARS-CoV-2 S1 trimer.

Reference: Walls et al., 2020, Cell 180, 281–292, April 16, 2020, https://www.cell.com/cell/pdf/S0092-8674(20)30262-2.pdf

Binding of hACE2 to S1 and RBD Proteins



Binding of anti-SARS CoV-2 mAb (Ab-LTA003) to S1 and RBD Proteins

Summary

- hACE2 binds strongly to RBD and slightly to S1
- mAb (Ab-LTA003) binds strongly to RBD but not to S1
- Normal Human Pooled Serum does not bind to RBD or S1 (Data not shown)
- Human Sera from SARS CoV-19 infected patients (PCR-confirmed) bind to RBD and minimally to S1 (Data not shown)
- The low binding of S1 and hACE2 could be caused by the closed SARS-CoV-2 S1 trimer.

Order SARS-CoV-2 RBD Protein Now!

- 2019 Coronavirus SARS-CoV-2 Spike S1 RBD Protein, Human IgG1 Fc Tag
- http://www.lifetein.com/peptide-product/2019-coronavirus-sarscov2-spike-s1-rbd-protein-p-11019.html

- 2019 Coronavirus SARS-CoV-2 Spike S1 RBD Protein, Polyhistidine Tag
- http://www.lifetein.com/peptide-product/coronavirus-sarscov2-spike-s1-rbd-protein-polyhistidine-tag-p-11032.html

Case Study 2:

Generating Affinity Reagents for S1-RBD

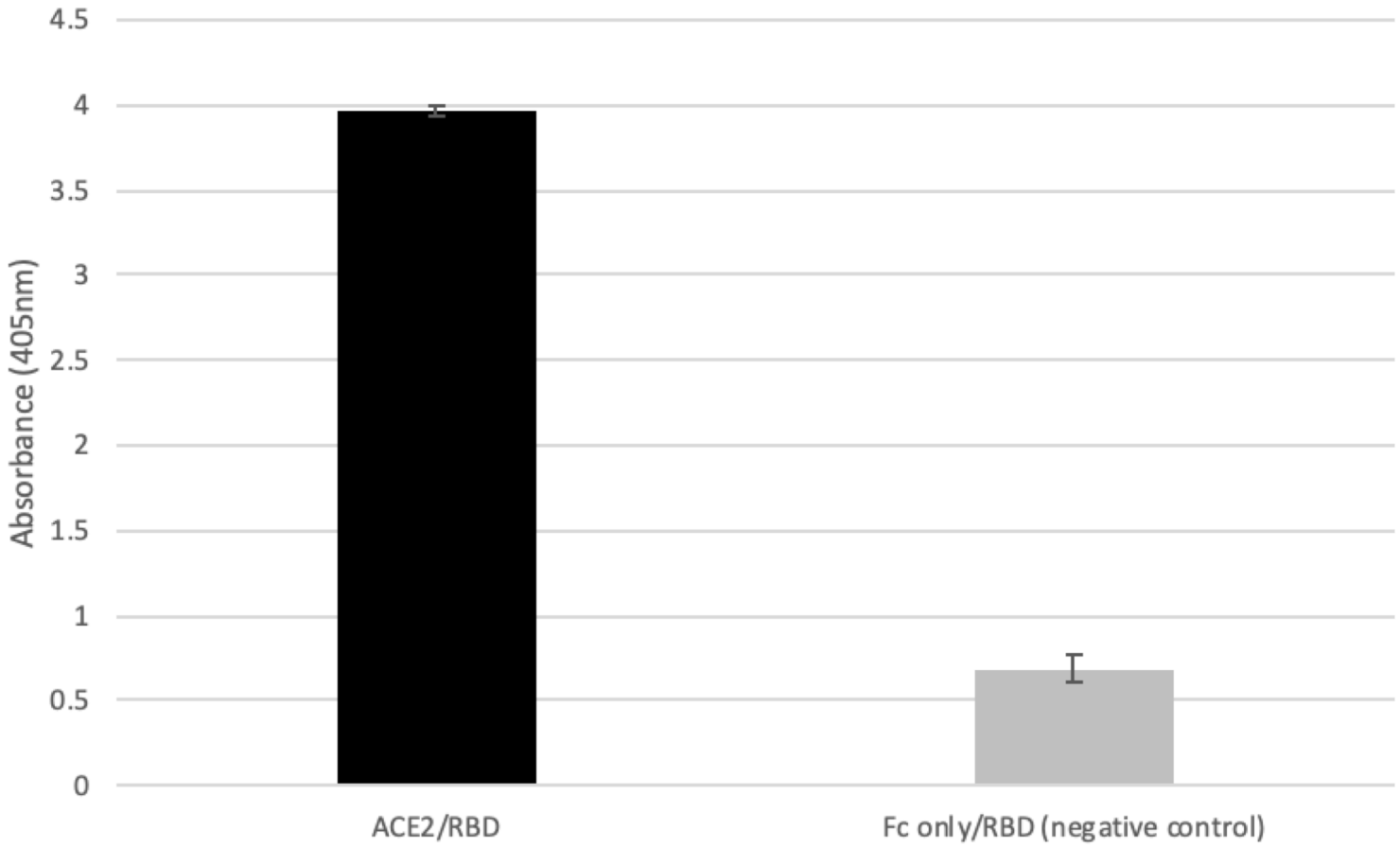
Goal: To generate monobodies for SARS CoV-2 RBD Protein

- **Methods**

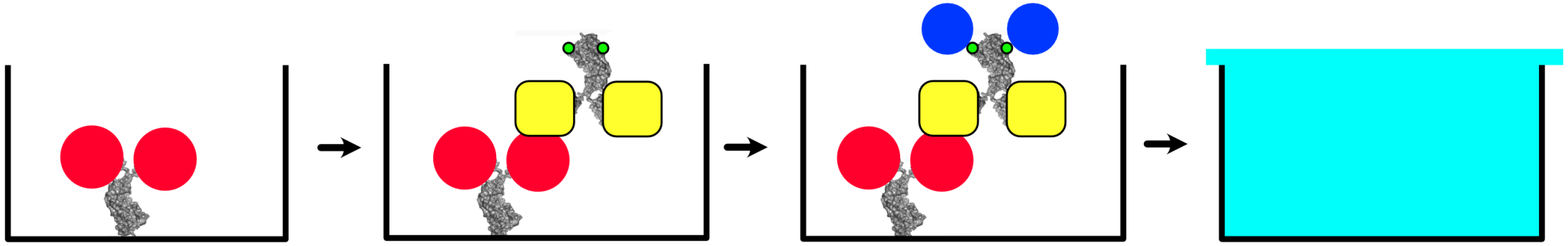
- Competition ELISA, Phage Display:
  - SARS CoV-2 S1 Spike Protein – Polyhistidine Tagged (LifeTein Product LTP-V006)
  - SARS CoV-2 RBD Protein – IgG1 Fc Tagged (LifeTein Product LTP-V002)
  - Recombinant hACE2, human IgG1 Fc-Tagged (LifeTein Product LTP-V003)

ELISA:

Binding of S1 RBD-Fc to ACE2



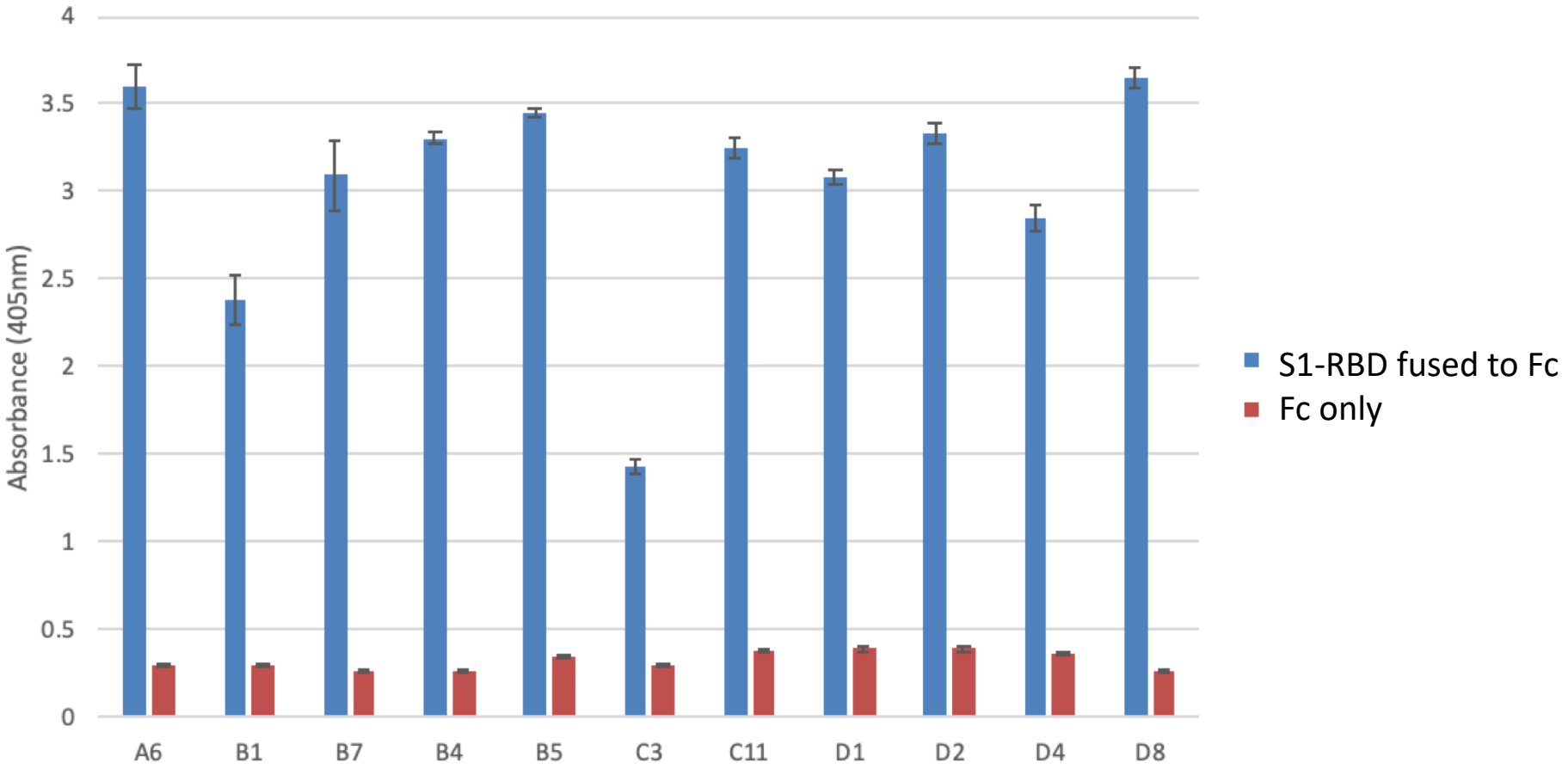
Assay Format



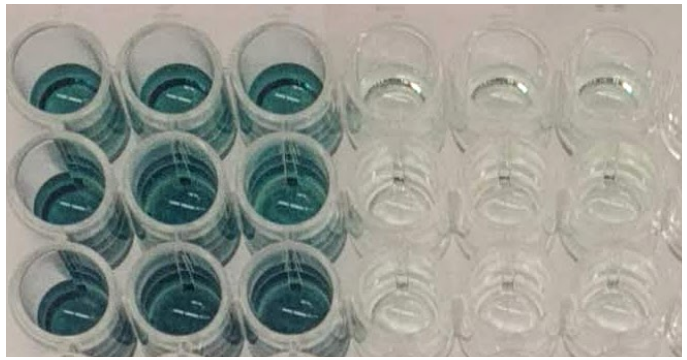
Wells coated with the unrelated Fc fusion served as the negative control.

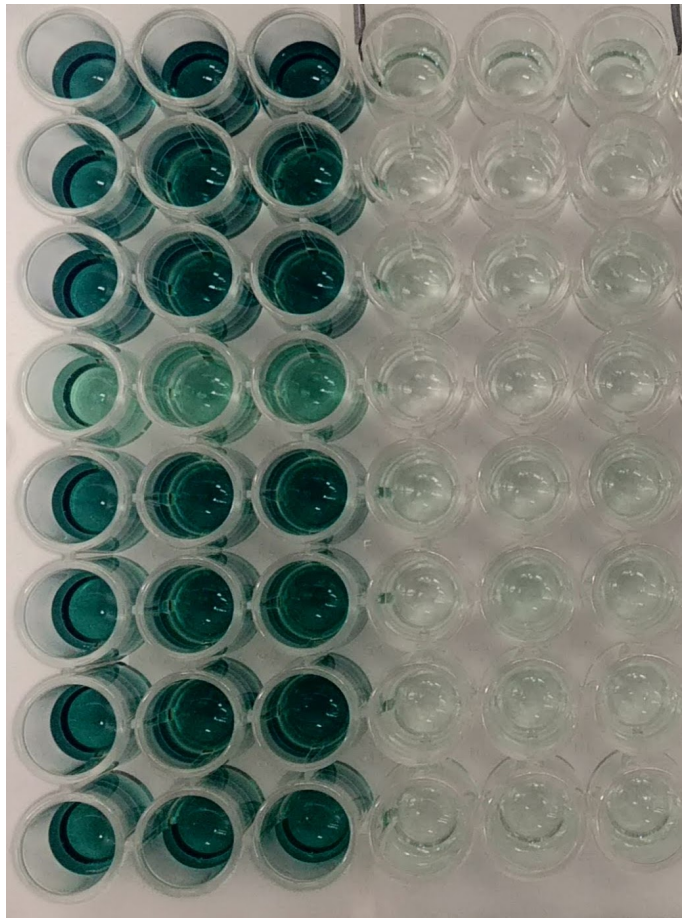
Monoclonal ELISA:

Binding of FN3 (monobody) affinity reagents displayed on phage to S1-RBD protein



S1-RBD Fc only





Summary:

- All 11 binders have been confirmed in triplicate.
- Samples have been sent for sequencing and will have results soon.
- Non-identical samples will move forward with cloning and purification.