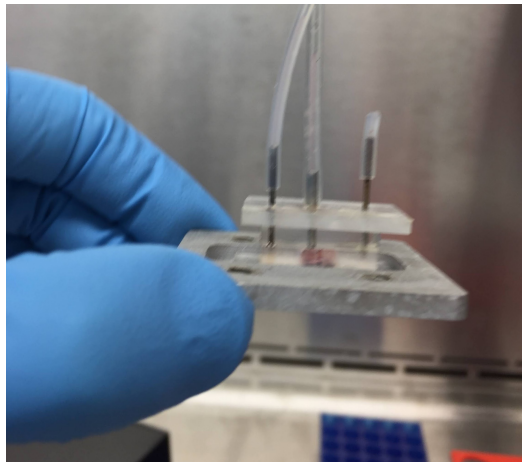
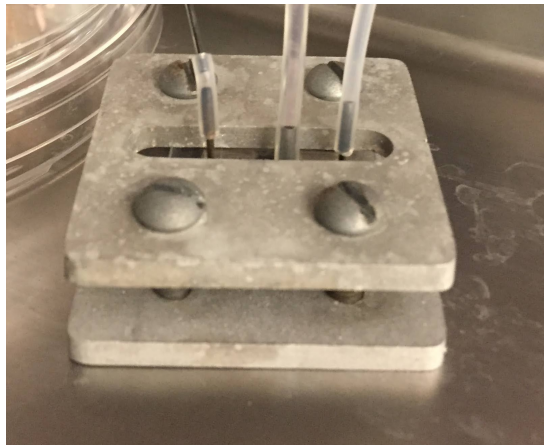


Plastic insert
PDMS slab

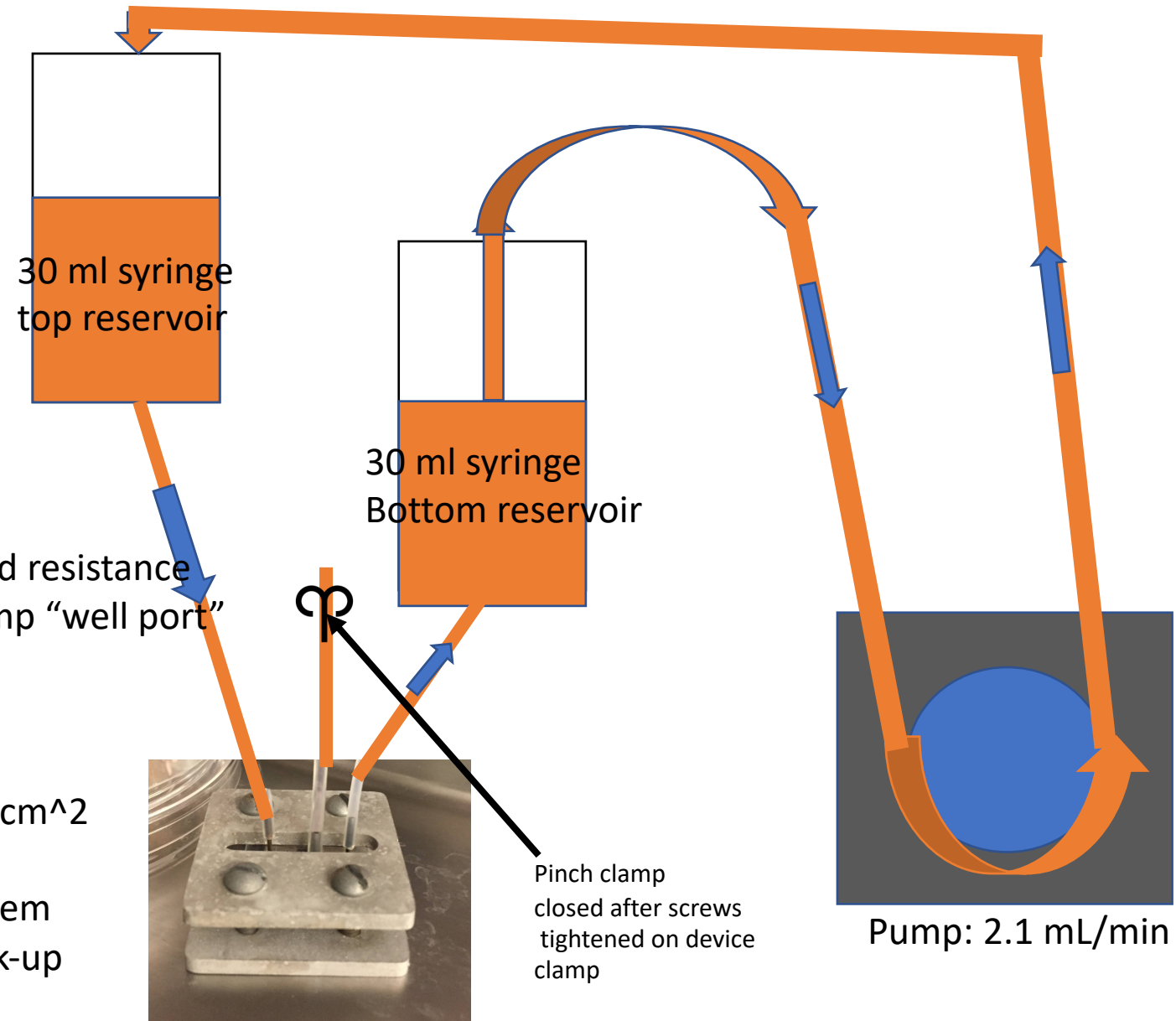
Aline- HUVEC in
bottom channel



20G straight connectors
20G stub connectors
No stopcocks- minimized resistance
Finger tight screws, clamp "well port"
after screws tightened



1. Seed HUVEC 40,000/cm²
2. Wait ~24 hours
3. Aline into Clamp system
4. Wait ~4 hours to hook-up
& start flow

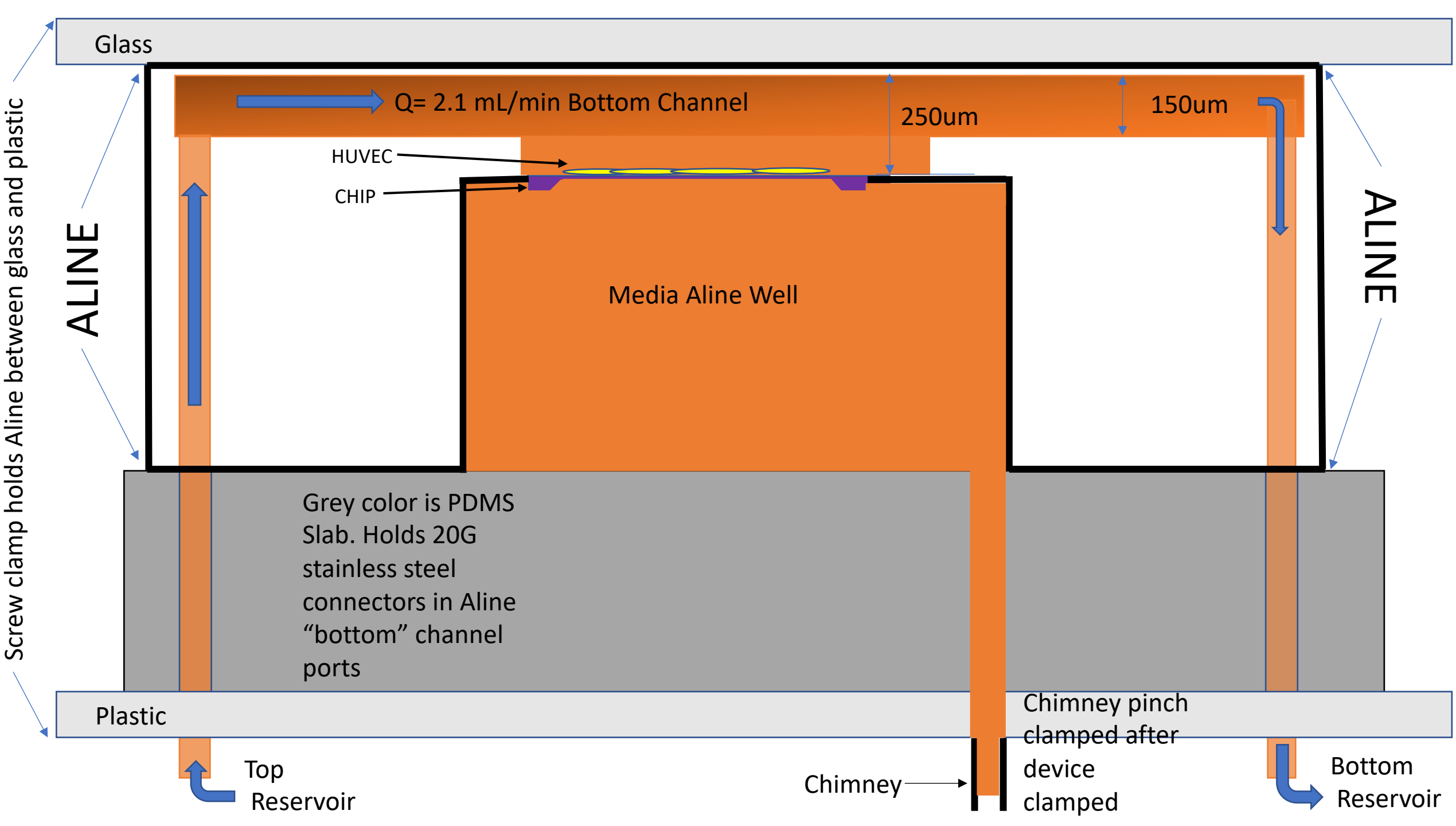


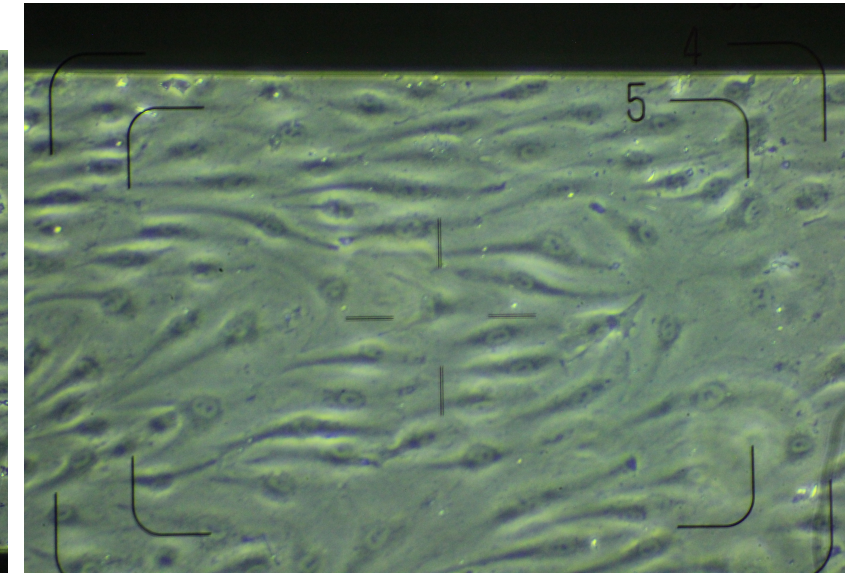
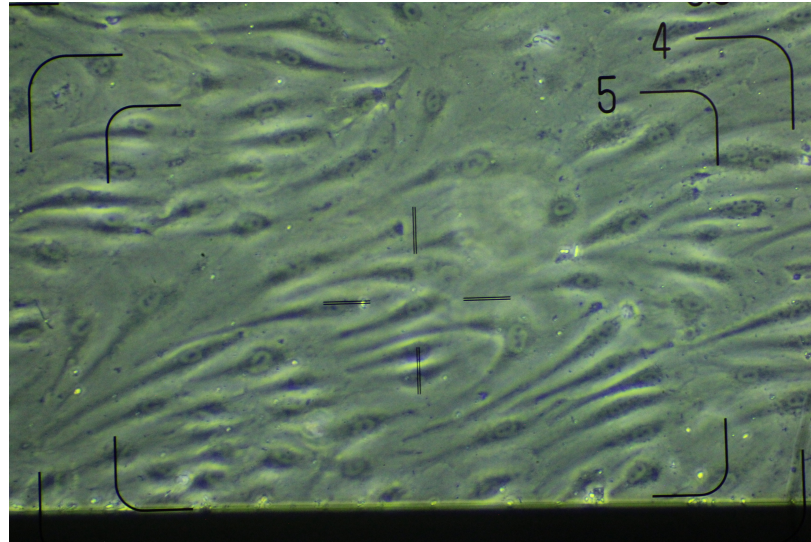
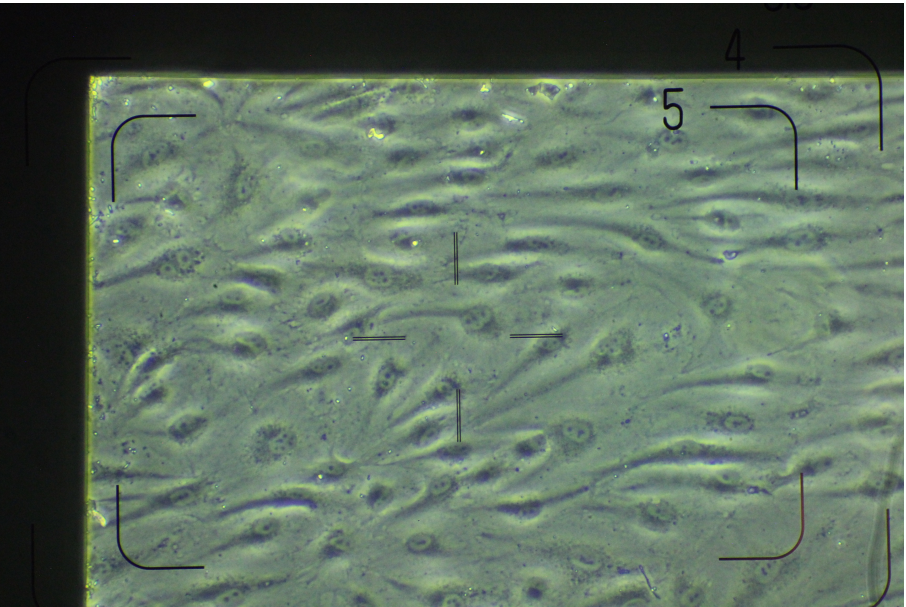
30 ml syringe
top reservoir

30 ml syringe
Bottom reservoir

Pinch clamp
closed after screws
tightened on device
clamp

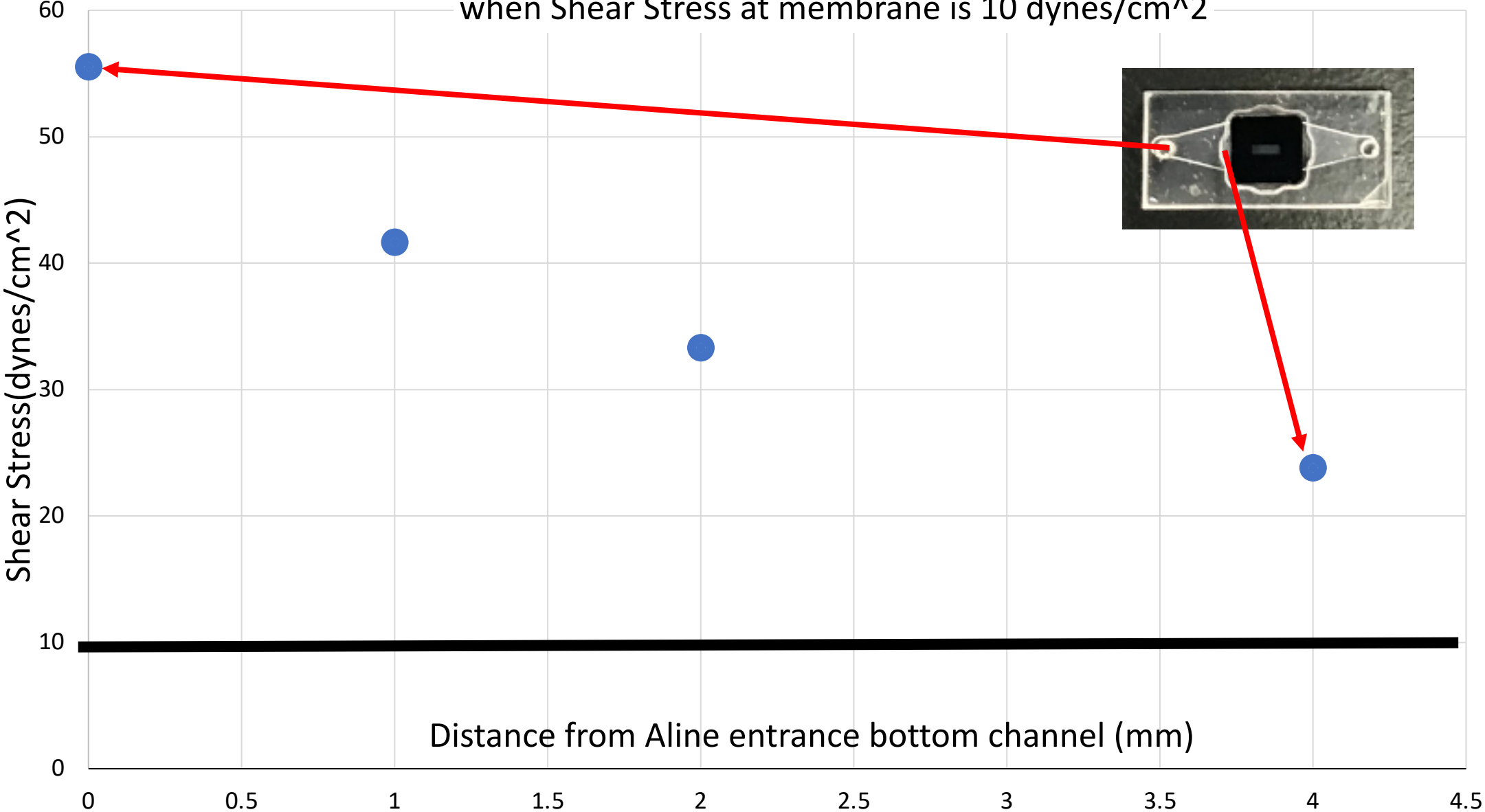
Pump: 2.1 mL/min





Pictures above are HUVEC on membrane, Bottom channel of Aline, 3 days at ~ 2.1 mL/min or 10 dynes/cm²

Shear Stresses at Q=2.1mL/min in channel
when Shear Stress at membrane is 10 dynes/cm²





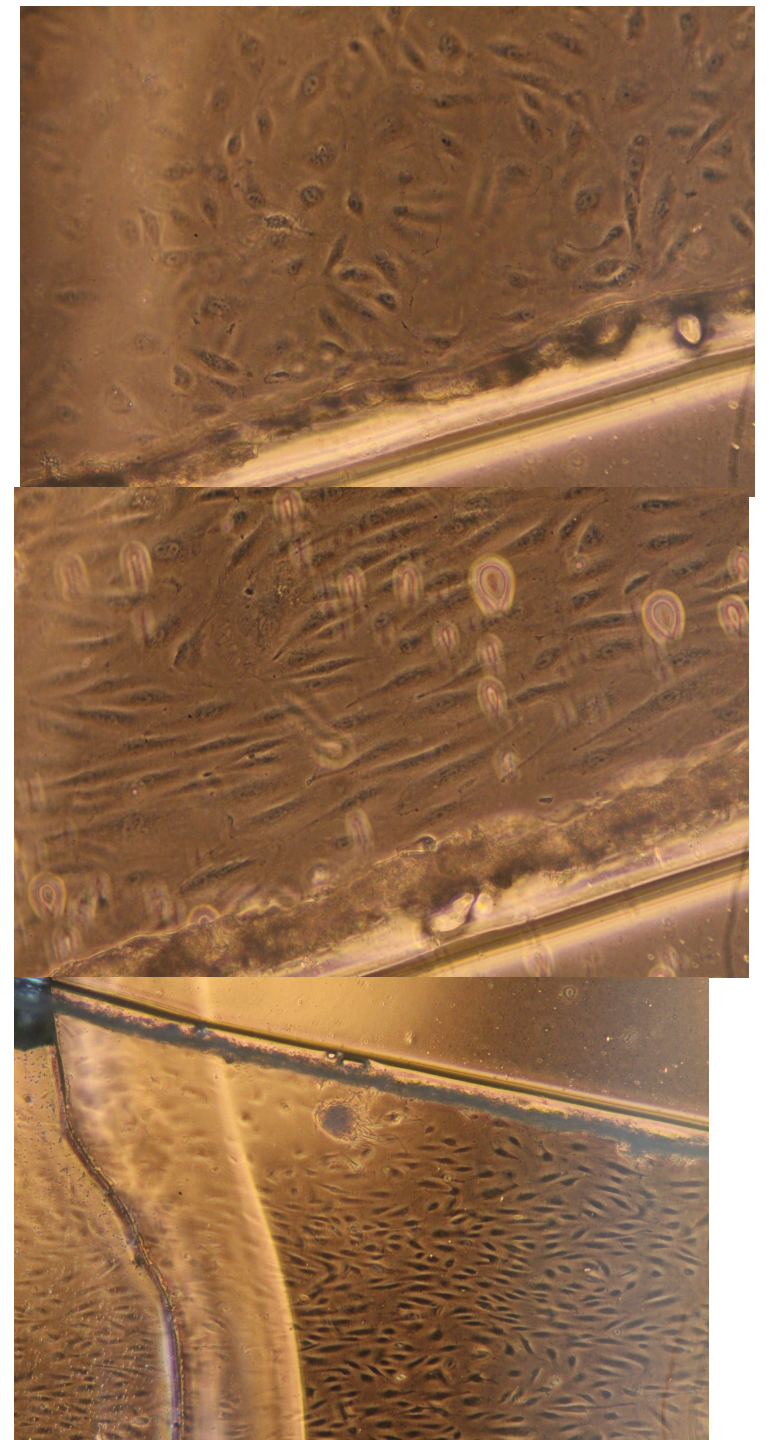
Two Alines hooked to our flow system
Reservoirs ~ 14 inches apart.
Placed in cell culture incubator

Static Channel

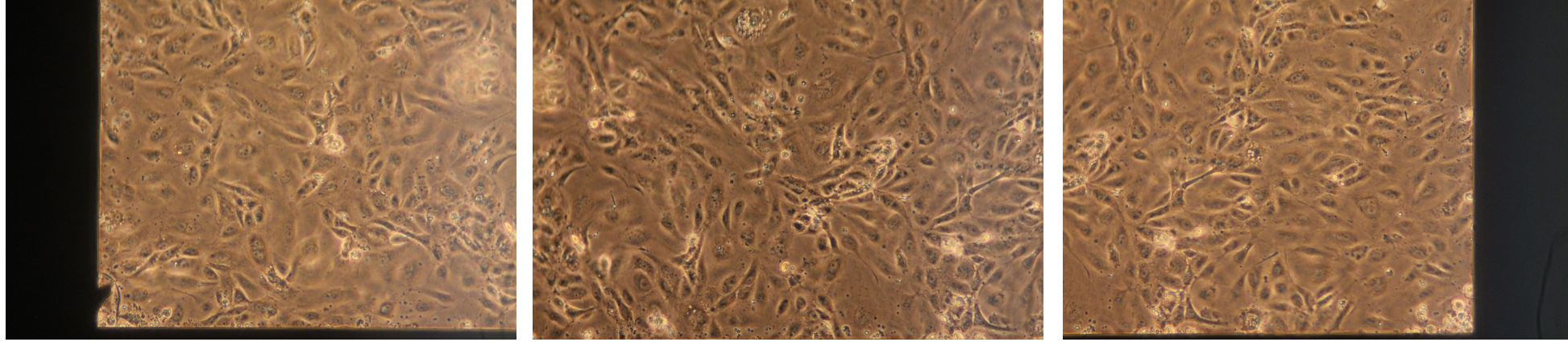
Although cells didn't line-up on membrane at 19 hours, they did in higher shear area of channel

19hrs Side of Channel
~20 dynes/cm²

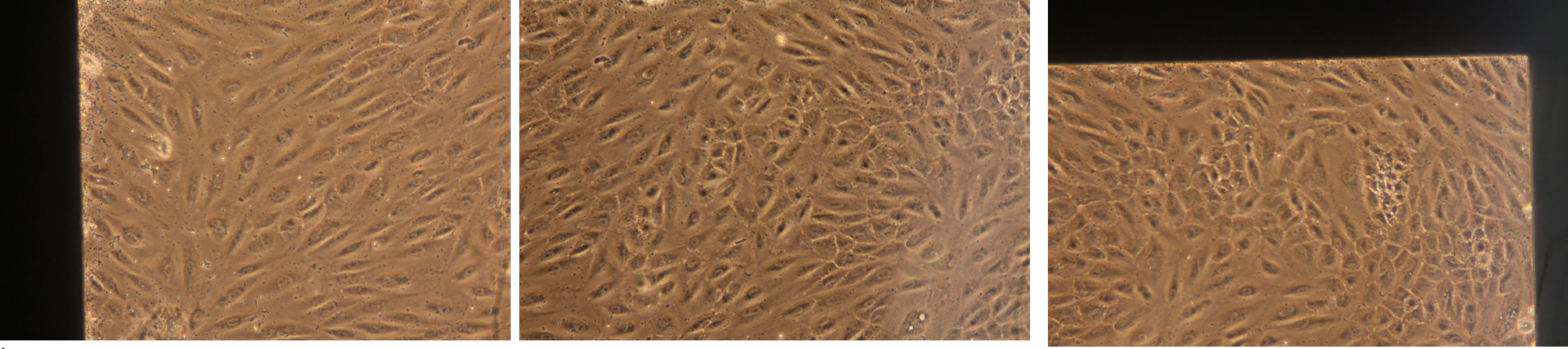
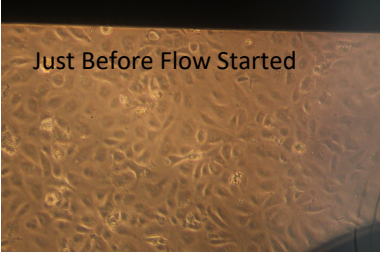
19hrs Side of Channel



Matching
Static Aline
Seeded
Wednesday



1st in tandem



Flow started
Thursday
Q=2.1mL/min
19 hrs

2nd in tandem

