Protocol for Microfluidic Device Setup

Materials: ethanol, Poly-L-Lysine, DMEM Media(10% FBS, 1% P/S) at Room Temperature, MBP pure-10-Reach pipet tips,1 ml sterile tubes, 10 ml syringes

1. In a sterile hood, position all pre-assembled device bases in the same outlet-inlet orientation
2. The following steps are to be done for each device
3. Insert MBP pure-10-Reach pipet tips into the openings on the device(2 for each device, 1 in outlet and 1 in inlet)
4. Transfer around 1 ml of ethanol into a sterile 1 ml tube
5. Use a sterile 10 ml syringe, fill around ¾ of the pipet tip at the inlet side of the device with ethanol from the tube, avoid formation of bubbles in the pipet tip
6. Use a 10 ul pipette, apply pressure to the inlet side of the device to push some of the ethanol through to the outlet side, watch for leakings
7. Discard the devices with severe leakings and continue
8. Use the same syringe, take all ethanol out from the outlet side and leave a little on the inlet side for injection of next solution
9. Transfer around 1 ml of poly-L-lysine into a sterile 1 ml tube
10. Use a 10 ml syringe, fill around ¾ of the pipet tip at the inlet side of the device with poly-L-lysine, avoid formation of bubbles in the pipet tip
11. Push through some of the poly-L-lysine to the outlet side with 10 ul pipette
12. Put devices in incubator to incubate for 2 hours at 37 degrees celsius
13. Use the 10 ml syringe, remove all poly-L-lysine from the outlet side and leave a little on the inlet side for injection of next solution
14. Use a 10 ml syringe, fill around ¾ of the pipet tip at the inlet side of the device with Room Temperature DMEM Media, avoid formation of bubbles in the pipet tip
15. Push through some of the DMEM Media to the outlet side with 10 ul pipette
16. Use the 10 ml syringe, remove all poly-L-lysine from the outlet side and leave a little on the inlet side for injection of the cell
17. Get the cell from the incubator, using a sterile pipet tip with filter, obtain around 1ml of media with cells in it and transfer to a 1 ml tube
18. Use a 10 ml syringe, fill around ¾ of the pipet tip at the inlet side with cells
19. Put the device with cells to incubate at 37 Degrees Celsius