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Nanoparticle Tracking Analysis (NTA)

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Protocol status: Working
We use this protocol and it's working

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Abstract

This protocol is designed to identify the average size and concentration of particles using a nanoparticle tracking analysis (NTA). These steps are to be done immediately after the isolation of extracellular vesicles.

Nanoparticle Tracking Analysis (NTA)

1 Turn on the machine and tighten in the 4 beige screws into the glass chamber

2 Place the glass chamber into the machine and move up the red lever to lock into place

3 Grab a new 1 mL syringe and wash the machine with 1 mL of distilled water 2-3 times until no particles are visible

4 Attach the syringe to the injection port and fix it in the injection port

5 Go to capture (left top corner) → click start camera

6 Go to interface → hardware (on the right) → syringe pump (on the top) → click infuse

7 Scroll up and down to see the brightness of the particles passing on the screen

8 Once the wash is done grab that same 1 mL syringe and take up all 1 mL of your sample

9 Insert the syringe and state infusion

10 Wait until the volume on the syringe reaches 300-400 ul and start the analysis

11 Go SOP (left) → recent measurement (top) → double click on generic triplicate (will show the script panel on the left) → click on file name → click on D drive → Ziting → Emily → create a folder with the date

12 Hit run → creator name (Emily) → diluent (100) → sample description (whatever the sample is) → okay → settings okay

13 Hit settings okay → export → click on the folder → drive → folder → results → pdf → export to USB drive

14 Take the syringe and inject into the waste and throw the syringe into the red biohazard bag

15 Get a new syringe and insert 1 mL of distilled water into the syringe pump to wash the pump and repeat once

16 Go to hardware → syringe pump → infuse

17 When all the samples are complete wash the chamber with a total of 3 mL distilled water

18 Clean the glass chamber with ethanol, turn off the machine, and close the program