

Measuring cell size distribution using the particle size analyzer

Materials:

Cell culture: The maximum volume of culture you can load into the micro module is 15mL. Typically a mid-log culture (6×10^6 cells/ml) requires only 200 μ l of culture while a culture density of 2×10^6 requires 800 μ l.

Water as a blank (15mL per sample)

Beckman Coulter Laser Diffraction Particle Size Analyzer LS13 320

Training is advisable for new users.

Methods:

1. To enter room 1033, enter the door code 10033*
2. Log-on to LinRL system (see Ignacio Martinez to get a username). There is a charge of \$ 10 per month per new user from the lab.
3. Select option 6 – unlimited time on LS13 320. Once logged in charge is \$2 an hour
4. The particle size analyzer should already be on. If not then you can switch on at the back.
5. You will need to take out the universal liquid module. To do this press the “eject module” button on the front and then lift it out and put it to the side.
6. The micro liquid module is kept in a cupboard below the desk where you logged onto LinRL. Place this in the same position as where you found the universal module and again press “eject module” button and it will automatically slide in to the correct position
7. Log on to the LS13 320 designated PC. Click on the “Labuser” icon and enter password “mctp”
8. Select the LS 13 320 icon on the desktop to open up the program
9. In the Run menu, select Load an SOM --- select “merchant lab-Jo Long_mlm.som.
10. Pipette 15ml of blank (water or TAP) into the liquid micromodule and click on start SOM
11. Once the background has been checked (background flux around 3×10^3), pipette in your sample. A good volume to start with is 100ul (for mid-log cells).
12. Check the % obscuration.
13. If it is below 8% add more sample, if it is above 12% start again until your measured obscuration is between 8-12%.
14. Start measurements
15. Save file.
16. Repeat from step 8 for the next sample.

17. Once finished, log out at the computer and replace the micromodule with the universal module
18. Log out of the LinRL system.
19. Put the micromodule back in the cupboard after rinsing with water.