

How to Use a Qubit Fluorometer

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Use this protocol to quantify how much DNA you have in a solution.

Ensure that bleach, ethanol, paper towels, racks, Qubit tubes, the Qubit machine, the working liquid, the standards, pipettor, small pipette tips, vortex, magic marker, and tip container are available.

1. Sterilize the counter with bleach and ethanol, wiping dry with a paper towel.
2. Take box containing the working solution and the two standards out of the refrigerator.
3. Remove Qubit fluorometer from its box and plug it into the wall. It may be necessary to unplug it and plug it back in again before it turns on.
4. Place open, labeled tubes in a tube rack. (label one S1 for "Standard 1", one S2 for "Standard 2", and however many tubes as samples you have with your sample names.
5. Vortex Standard 1 and 2 bottles.
6. Add 10 μL of Standard 1 to its corresponding tube.
7. Add 10 μL of Standard 2 to its corresponding tube.
8. Add 190 μL of working solution to each of the standard tubes.
9. Vortex your first sample tube.
10. Add 2 μL of your first sample to its corresponding tube, making sure to close the sample tube once you are done with it.
11. Add 198 μL of working solution to your sample's corresponding tube. Repeat the above three steps for all of your samples.
12. Vortex all of the filled tubes, ensuring their lids are tightly on.
13. Incubate the tubes at room temperature for two minutes.
14. While incubation is occurring, put the Qubit reagents and your original sample tubes back in the fridge.
15. Gently stroke the Qubit fluorometer screen to wake the machine if it is sleeping.
16. Press "dsDNA".
17. Press "dsDNA High Sensitivity".
18. Press "Read Standards".
19. Insert tube S1, closing fluorometer lid after insertion.
20. Press "Read Standard 1".
21. Remove S2, insert standard 2 and press "Read Standard 2".
22. Press "Read Samples".
23. Adjust sample size dial to 2 μL .
24. Choose " $\mu\text{g}/\mu\text{L}$ " in the "Output Sample Units" menu.
25. Insert your first sample, closing fluorometer lid after insertion.
26. Press "Run".
27. Record DNA concentration in your lab notebook.
28. Repeat the above five steps for each sample.
29. Once done, discard of used Qubit tubes in the trash (reagents do not require special disposal methods).