04_05_QubitFluorometer

DIENSTAG, 13.7.2021

Goal-Setting

- Measure the concentration of DNA in a sample
- The fluorescence molecules can intercalade into the DNA and the Qubit 2.0 fluorometer measures the intensity

Terms / abbreviations

- None

Risk areas

- None

Required materials and / or information

- Medium-sized tubes, Eppendorf
- Qubit dsDNA BR assay kit, ThermoFisher
    - Qubit dsDNA BR Reagent
    - Qubit dsDNA BR buffer
    - Qubit dsDNA BR Standards #1 and #2
- Solutions in the 4 °C fridge in Extension Lab, in a plastic bag

Templates, devices, software

- Qubit 2.0 fluorometer, ThermoFisher

Preliminary work

- None

Operation

Preparing samples for measuring

- Prepare working solution:
    - The Qubit dsDNA BR Reagent is diluted with Qubit ds DNA BR buffer 1:200 because 200 µL for one sample is needed
    - 199 µL from Qubit dsDNA BR buffer
    - 1 µL Qubit dsDNA BR Reagent
- Prepare two standards with Qubit dsDNA BR Standards #1 and #2 (one negative (-) and one positive (+)):
    - Use the medium-sized tubes
    - 190 µL working solution
    - 10 µL standard
- Prepare sample:
    - Use the medium-sized tubes
    - 199 µL working solution
    - 1 µL sample

Measurement

- Choose ssDNA or dsDNA
- Measure in new standards
    - Put Qubit dsDNA BR Standard #1 (-) in the opening, close the lid and start reading
    - Put Qubit dsDNA BR Standard #tandard 2 (+) in the opening, close the lid and start reading

- Measure the sample
    - Put the sample in the opening, close the lid and start reading
- Adjust the settings, because only 1 µL of the sample is used and not 10 µL like for the standards
    - Press the button
    - Choose 1 µL
    - Adjust the units --> ng/µL

Troubleshooting

- For each new measurement new standards should be prepared because the fluorescence solution is not that stable

Follow-up work

- None