ROY J. CARVER CENTER FOR GENOMICS

"ACCELERATING GENOMICS RESEARCH"

Newsletter: Volume 1- August 2023

RECENT NEWS:

We have added the following equipment to the CCG:

Diagenode Bioruptor Pico II (Now Available!!!)

BD FACS Melody Cell Sorter (Here in the CCG, see updates)

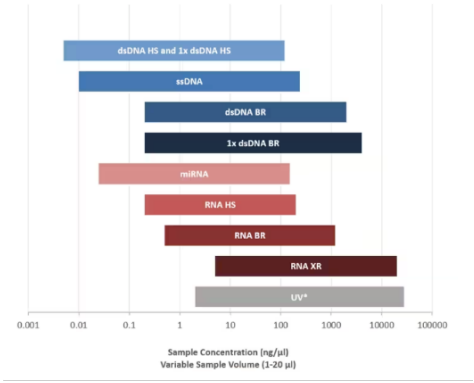
Bio Tek Synergy LX Multimode Plate Reader (Now Available!!!)

Invitrogen Qubit 4

CCG UPDATES

Welcome to the new people joining the department and everyone new to the CCG! We have several reminders and a few changes to share in this newsletter.

- Please remember to sign-up for equipment using the online scheduling system: https://bioweb.biology.uiowa.edu/servicecenters/login.php. If you decide not to use the machine at that time, please email the CCG (ccg@uiowa.edu) to remove your reservation. This will allow others to sign-up in your canceled spot.
- We are currently experiencing issues with the Cryostat online sign-up. In the interim until we get this issue resolved, please email the CCG (ccg@uiowa.edu) to sign-up for this machine.
- DNA sequencing samples and request form must be in by 8am on Tuesdays and Thursdays for your samples to be run on those days. The form is available on the CCG website (https://biology.uiowa.edu/ccg/ccg-services). Please submit the form to the CCG via email (ccg@uiowa.edu).
- Any adjusted times for sequencing runs will be notified in advance via email and noted on the whiteboard on the sequencing submission freezer.
- Please do not sign-up for the Thermocycler 2 on Tuesday or Thursday mornings to mid-afternoon. This machine is used to process sequencing samples.
- Bioanalyzer runs need to be requested by emailing the CCG (ccg@uiowa.edu) at least 24 hours in advance. There is a request form to fill out and return which will be emailed to you once the time is scheduled for the run. Samples are to be placed in the CCG sequencing submission freezer (Rm 232 BB) in the labeled rack on the middle shelf.
- A sign-in log next to the Cytation5 machine has been added in addition to scheduling time online. Please fill out this sheet as pricing changes are going into effect in September 2023.
- The Synergy LX Plate Reader is to be used for common microplate applications that do not require imaging. This machine was purchased in order to take the high usage load off the Cytation5 machine. It runs on the same software as the Cytation5. Please switch to using the Synergy LX Plate Reader instead of the Cytation5. If you require more advanced applications or imaging, then schedule time on the Cytation5. See the June 2023 newsletter for applications as it was highlighted in that newsletter (https://biology.uiowa.edu/ccg/ccg-newsletter).
- The QuantStudio3 price will be increasing to $25 per run starting in September 2023. Please label your files with your initials first, then the file name. For example, "CMK-20230801-PCNA-wt." This will enable easy identification of your labs' runs for billing.



Sample conc. ranges for Qubit nucleic acid assays

Assay kits info: https://www.thermofisher.com/us/en/home/industrial/spectroscopy-elemental-isotope-analysis/molecular-spectroscopy/fluorometers/qubit/qubit-assays.html

Additional info: https://www.thermofisher.com/us/en/home/industrial/spectroscopy-elemental-isotope-analysis/molecular-spectroscopy/fluorometers/qubit/qubit-technical-resources.html#myqubit-step2

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We have several items that are free to a good home including several water baths (one circulating), hybridization chamber, vacuum pump, etc. An email was sent out to Biology faculty with images of the items. Please contact the CCG if you are interested in an item (ccg@uiowa.edu).

If you have any questions and would like to be added to our listserv for future newsletters, please email the CCG (ccg@uiowa.edu).

New equipment:

BD FACS Melody Cell Sorter: The **NEW** BD Cell Sorter has arrived and is set up in the CCG! Currently, we are training on the machine and learning how the system works to sort various types of cells. We are hoping to have the machine available for sorting sometime during the fall semester. Stay tuned.

Equipment Highlighted:

Qubit 4 is an all-in-one fluorometer that performs rapid and accurate assays to quantitate nucleic acids, proteins, or ion sphere particles. The machine requires 1ul of sample and can measure as little as 0.1ng of nucleic acids in an assay. It can also be used to assay RNA integrity and quality. The machine has easy-to-use touchscreen menus and a built-in reagent calculator which calculates the amount of buffer and dye needed for the assay. It uses proprietary assay kits that contain two pre-mixed standards to reduce errors. The machine has pre-set protocols for the various kits. The Qubit can also run on fluorometer mode allowing the use of nucleic acid-binding dyes such as PicoGreen and RiboGreen to design your own custom assays. The user needs to set-up the custom assay with the MyQubit assay design tool (link under additional info) to identify the appropriate range and number of standards for their samples.

The CCG has the following Qubit kits in stock. The dye is aliquoted into 11ul samples for purchase. With the purchase of the dye, you also get the standards, buffer, and tubes for the assay. See below for pricing.

- dsDNA HS Assay kit: initial sample conc. = 0.005-120 ng/ul; quantitation range = 0.1-120 ng
- RNA HS Assay kit: initial sample conc. = 0.2-200 ng/ul; quantitation range = 4-200 ng
- RNA IQ Assay kit: 2 dye kit measures integrity & quality of RNA
- Protein Assay kit: quantitation range = 12.5 ug/ml – 5 mg/ml

Important Use Information:

Please sign-up online to block off time if you are doing lots of samples, otherwise use the sign-in sheet next to the machine to log your usage. Contact the CCG for kit dye aliquots.

Billing Information:

- You are required to log the number of samples you run for each use of the machine on the sign-in sheet. This includes any standards run.
- You will be billed monthly based on the total number of samples run per month and any dye purchased. Tiered cost table:
  - Up to 20 samples: $8 21-40 samples: $10 41-100 samples: $15 >100 samples: $20
  - dye aliquoted & charged in increments of 10 at $1.36 per reaction (10 reactions = $13.60)