

FlyChip protocol for adding spotting buffer to 384-well printing plates

Overview

Oligonucleotide libraries are dispatched to us in 384-well microtitre plates. Spotting buffer is added to these plates using a Beckman Coulter Biomek NX^P Liquid Handling Robot (LHR).

Equipment and reagents

- Beckman Coulter Biomek NX^P Liquid Handling Robot (LHR)
- AP96 non-sterile P20 tips (Beckman Coulter; Cat. No. 717254)
- 70% Ethanol
- Spotting buffer
- Hettich Rotina 35 microtitre plate centrifuge
- Adhesive PCR Film (Abgene; Cat. No. AB-0558)
- Horizontal laminar flow work station (Jencons; Cat. No. 566-031)

Procedure

1. Remove the microtitre plates from the -80 °C freezer and leave to defrost
2. Once defrosted, centrifuge all plates at 2000 rpm for 2 minutes
3. Clean the exterior and interior of the LHR using the Dyson vacuum cleaner and wipe with 70% Ethanol
4. Open the program "Hydrate_LIBRARY_YesWash" and home all instrument drives
5. Fill the in-flow wash tank with distilled water and prime the wash station, *e.g.*, for 3-5 min.
6. Load the instrument, as directed by the "Hydrate_LIBRARY_YesWash" program, *i.e.*, fresh box of AP96 P20 tips, reservoir filled with spotting buffer and the plate to be hydrated
 - ◆ Adhesive film should be removed just before the plate is loaded into the LHR
 - ◆ All plates should be loaded in the LHR with well A1 in the top-left corner
7. Start the program and watch to make certain the LHR is working correctly
8. Repeat steps 6 to 7 until all plates have been rehydrated: as each plate is finished, remove from LHR and affix an adhesive PCR film
9. Centrifuge all plates at 2000 rpm for 2 minutes and then incubate the plates at 37 °C for 2 hours to dissolve the probe DNA
10. Clean the LHR to make certain that it has been left ready for others to use
11. Centrifuge all plates at 2000 rpm for 2 minutes and store the plates at -80 °C

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