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Standard Operating Procedure (SOP) for Formulatrix plate hotel

1. PURPOSE:

This SOP outlines the correct usage, maintenance, and shutdown procedures for the Plate Hotel system from Formulatrix to ensure safe and consistent operation.

2. SCOPE:

This SOP applies to all authorized personnel operating the Plate hotel within the laboratory.

3. RESPONSIBILITIES:

- Only trained personnel are permitted to operate the Plate Hotel.
- Operators must adhere strictly to this SOP.
- Maintenance and troubleshooting issues should be reported to the designated laboratory manager.

4. EQUIPMENT AND MATERIALS NEEDED:

- Plate hotel (Formulatrix)
- Computer with Rock Maker software installed with barcode printer (M3 032B) (Garcon drive needs to be mounted on your session)
- Personal computer with access IceBear software setup

5. PROCEDURE:

5.1. Register the Plate to deposit in the plate hotel

- On the computer in room M3 032B start the Rock Maker software
- Create a new project for your protein into your personal folder
- Create a new protein formulation
- For every plate to store in the plate hotel Create a New experiment named “Plate X - Protein name – Screen/Condition”. Please keep increasing the number for every new plate made by yourself!
- Select the right type of plate (MRC 2 well/ Swiss plate 3 well...)
- In this menu you can change the imaging schedule, but Newcastle should fit your need
- UV imaging is also possible but ask NUSBF facility staff ibefore selecting it

- On the bottom part of the screen select the Canva tab and slide your protein from the left menu into the 2 or 3 small wells of the first condition (A1). It will be applied to the whole plate.
- Save the plate (important) and print 2 barcodes: right click on the plate name and Print barcode.
- Tape one barcode to the right side of the plate and keep the other one in your lab notebook for record

5.2. Deposit the plates into the plate hotel

- Once all you plate are barcoded, bring them to the plate hotel room (room XXX – the key is in the Metaljet room)
- You can store you plate at 4C or 20C use the switch below the computer screen to display the right interface
- Open the loading port of the plate hotel you choose (the top door) and wait for the plate holder to arrive at the door.
- Fit you plate wherever you want with the barcode with the barcode tape facing away from you
- Close the door and in the software select move the plate to storage
- The robot should now move all your plate to storage and start the imaging as soon as possible

5.3. Inspect your plates using IceBear

- To inspect your plates, login to the Icebear website (https://garcon.ncl.ac.uk:19742/) using the login created by Arnaud for you.
- The first thing to do will be to create a project to tag your plate. To do so, click on the menu (the 3 rectangles on the top right) and select add a project
- Give it a name and a description and then on the left part of the window select the Proteins tab and Create a new protein for your protein of interest
- Now go on the menu, select my profile. Here you should see all your plates on the right side named with their barcode. They should all be tagged with the Default Project
- Click on the first plate and in the new windows select the Protein tabs and your protein to it, this will put them into the project you created earlier
- Now in the Plate windows you can select the inspection tab where all the imaging events should appear and select a record
- You can now go through all your well images and score them (from 0 for clear to 9 for crystal).
- You can either click play and let the software show you all the well (you can adjust the time spent on each well) or manually go through the well using the arrow on your keyboard. You can also have an overview of the plate using the perpendicular arrow icon at the bottom right.

5.4. Recover your plates from the Plate Hotel

- To recover your plate in the plate hotel software, select the plate tab and then the Search option on the bottom part of the screen then you can click on each column and type some text to filter on this column (Project, Name, plate number...)
- Select your plate and right click on it. In the menu select Move Plate To > Load Port Hotel
- Your plate will then be fetched from the storage and brought to the loading port. Once done, open the loading port door and take your plate

6. MAINTENANCE:

- Weekly: Inspect the dispensing head and cassettes for wear and tear. Clean or replace as necessary.
- Monthly: Perform a full calibration of the system to ensure accurate dispensing.
- Annually: Schedule professional servicing from SPTLabtech or an authorized technician.

7. TROUBLESHOOTING:

- If the system displays an error, contact the SBL platform officer for assistance.

8. REFERENCES:

Rock Maker software Manual:

https://help.formulatrix.com/rock-imager/3.3/Default.htm#Introduction/Welcome_to_Rock_Imager_Help.htm

IceBear help webpage:

https://garcon.ncl.ac.uk:19742/client/help/