xCELLigence® Real-Time Cell Analysis (RTCA) **SP Instrument**

QUICK START AND DATA ACQUISITION GUIDE

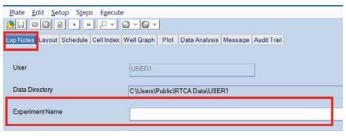
LAUNCH THE RTCA SOFTWARE

1. Double click the RTCA software icon to launch the software
2. Sign in as USER1/USER2 (no password necessary)

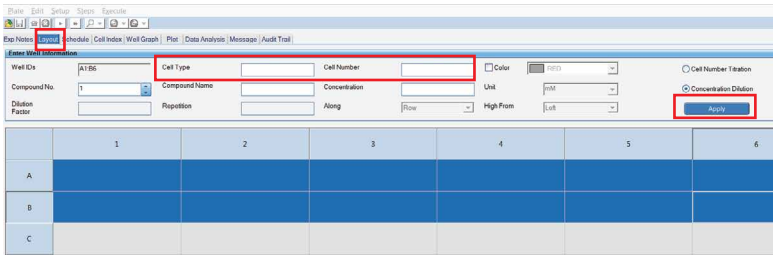
DEFINE EXPERIMENTAL SETUP

1. Click *Exp Notes* tab
   - Fill in "Experiment Name"
2. Click *Layout* tab
   - Within the plate map, left click and drag to highlight the wells of interest. Then add the "Cell Type" and "Cell Number". Click "Apply".
   - Highlight wells that will receive a compound treatment and add the following:
     - Compound Name
     - The highest (final) compound "Concentration" that will be used
     - The concentration "Unit"
     - The "Dilution Factor" to be applied to serial dilutions
     - Click "Apply"
3. Click *Schedule* tab
   - Click the icon to add a step. By default, the 1st step is the background reading step. No change is needed.
   - Click the icon to add another step. A typical step would be 15 min "Interval" for a "Duration" of 96 hours.
   - Click "Apply" to confirm entries.

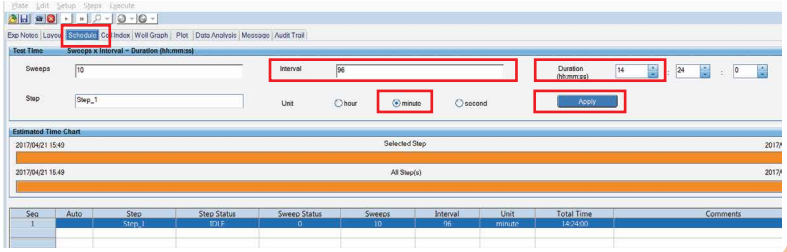
1.



2.



3.



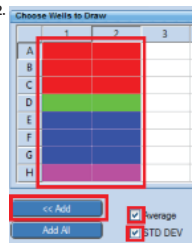
RUN THE RTCA EXPERIMENT

1. **Take a background reading:** Add growth media (50-100 µL/well) to the E-Plate, engage the E-Plate in the cradle, then click the icon to take the background reading.
2. **Seed cells:** Add cell suspension (100 µL/well) to the E-Plate wells. This gives a total volume of 150-200 µL/well. **Leave the E-Plate at room temperature for 30 min.** This step allows cells to settle in an evenly distributed pattern at the bottom of the wells, drastically minimizing edge effects and CVs.*Exception: this step may be omitted for short-term cell adhesion assays.
3. **Engage the E-Plate in the cradle, then click the icon to monitor cell adhesion and proliferation.**
4. **To add compounds or cells to the E-Plate:** Pause the experiment by clicking the icon before removal of the E-Plate from the cradle.

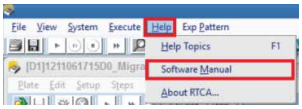
DISPLAY AND ANALYZE THE RTCA DATA

1. **Open files:** Click the icon and choose the PLT file to open.
2. **Plot the wells of interest:** In the *Plot* tab: Left click and drag to highlight the wells of interest, Click the "Add" button to visualize the Cell Index curves. Display the average of replicates, and the associated standard deviation error bars, by checking "Average" and "STD DEV". To zoom into an area of the data trace, left click and drag a box around the region of interest within the plot.
3. **Data Analysis:** Within the *Data Analysis* tab, select the desired type of data output from the section entitled "Analysis Option". *For detailed information on data analysis please download the Software Manual from the "Help" dropdown menu.

2.



3.



SAVE AND EXPORT RTCA DATA

1. Click the icon to save any changes made to the experimental notes or layout.
2. Click "Plate" and then choose "Export Experimental Info..." from the drop down menu to export data in Excel format.
3. Click "Plate" and then choose "Release" from the drop down menu to close the current RTCA experiment and start a new one.

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QUICK MAINTENANCE GUIDE

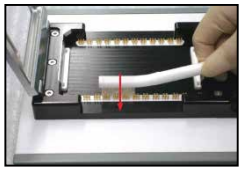
PREVENTIVE MAINTENANCE

General Cleaning Using fiber free tissue paper slightly moistened with 80% ethanol, gently wipe off any dust or contaminants from the surface of the RTCA SP Station. A small air blower can also be used to help remove any dust.

QC Test: Resistor Plate Verification Program a 5 min experiment (10 sweeps, 30 sec apart). Run the experiment with a resistor plate (Cat. No. 05232350001) in the instrument's cradle. Upon completion of the test, check the "Cell Index Page". If the Cell Index values are lower than 0.063, the system has passed the QC test. If the cell Index of any well is higher than 0.063, the RTCA Contact Pins 96 (Cat. No. 05232384001) should be cleaned or replaced (see below).



Cleaning the RTCA Contact Pins To guarantee proper functioning of the RTCA SP Instrument, clean the RTCA Contact Pins regularly (every 2-3 months) by scrubbing them with the fiber-free nylon brush provided with the system. Gently brush across the tips of the Contact Pins in one direction towards the center of the cradle pocket 10 times.



Changing the RTCA Contact Pins If the Cell Index value of any well in the resister plate verification test is still larger than 0.063 after the Contact Pin cleaning procedure, the Contact Pins 96 should be replaced. To identify and exchange a damaged/failed Contact Pin, refer to the **RTCA SP Instrument Operator's Manual** pages 46-47 for detailed instructions.



Inspection of the EPS Cable The EPS cable connecting the RTCA SP Station and the Analyzer should be inspected annually. If any sign of corrosion or breakage is observed, the cable should be replaced.

DECONTAMINATION

Decontamination of the RTCA SP Instrument The following solutions are compatible with the surfaces of the RTCA SP instrument and cables:

- 80% ethanol
- A mixture containing propan-1-ol (450 mg/g), propan-2-ol 250 (mg/g), and ethanol 47 (mg/g). This mixture is available from Bode Chemie under the tradename Bacillol® AF. When used as described in the supplier's instructions, this mixture is fungicidal, tuberculocidal, mycobactericidal, and virucidal against enveloped viruses (including HBV, HIV, HCV), Adenovirus, FCV, Papovavirus, and Rotavirus.

MAINTENANCE ITEMS

RTCA Resistor Plate 96	Cat No. 05232350001
RTCA Contact Pins 96 (20 units)	Cat No. 05232384001
EPS Cable, RTCA SP/MP Instrument	Cat No. 05291437001
Cleaning Tool Kits for DP/SP/MP/Cardio	Cat No. 00380101390



CONSUMABLES

Product	Cat No.	Description
E-Plate 96	05232368001	1 x 6 plates
E-Plate 96	05232376001	6 x 6 plates
E-Plate VIEW 96	06472451001	1 x 6 plates
E-Plate VIEW 96	06472460001	6 x 6 plates
E-Plate VIEW 96 PET	00300600910	1 x 6 plates
E-Plate VIEW 96 PET	00300600900	6 x 6 plates
E-Plate Insert 16	06465382001	1 x 6 inserts with receiver plate 16
E-Plate Insert 96	06465412001	6 x 6 inserts with receiver plate 96
E-Plate Insert 96 Accessories	06465455001	6 x Receiver Plate 96

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