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

QUICK START AND DATA ACQUISITION GUIDE

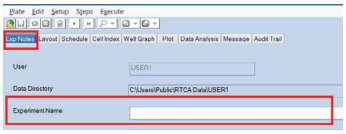
LAUNCH THE RTCA SOFTWARE

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

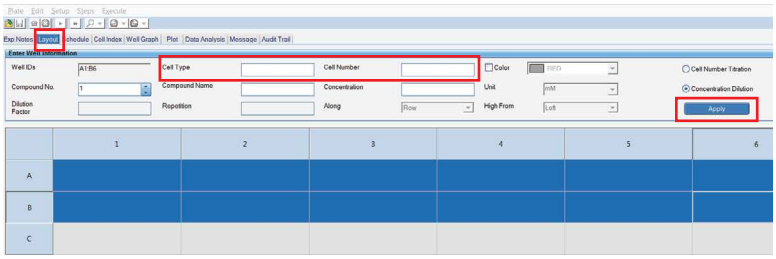
DEFINE EXPERIMENTAL SETUP

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.

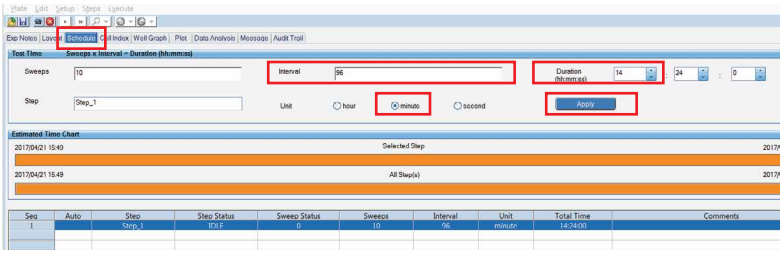
1.



2.



3.



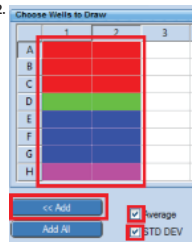
RUN THE RTCA EXPERIMENT

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.**

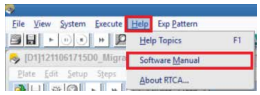
DISPLAY AND ANALYZE THE RTCA DATA

1. **Open file:** 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 DP Analyzer. A small air blower can also be used to help remove any dust.



QC Test: Resistor Plate Verification Program a 3 min experiment (10 sweeps, 30 sec). Run the experiment with a resistor plate (Cat. No. 05469783001) in each of the instrument's three cradles. 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 16 (Cat. No. 05471575001) should be cleaned or replaced (see below).



Cleaning the RTCA Contact Pins To guarantee proper functioning of the RTCA DP Analyzer, 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.



Exchanging 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 16 should be replaced. To identify and exchange a damaged/failed Contact Pin, refer to the **RTCA DP Instrument Operator's Manual** pages 69-71 for detailed instructions.

Inspection of the RTCA USB Cable The USB cable connecting the RTCA DP instrument and the control unit (computer) needs to be inspected annually. If any sign of corrosion or breakage is observed, the cable should be replaced. The general life span of the USB cable is 2-3 years.

DECONTAMINATION

Decontamination of the RTCA DP Analyzer and RTCA Control Unit The following solutions are compatible with the surfaces of the RTCA DP 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 16	Cat. No. 05469783001
RTCA Contact Pins 16 (20 units)	Cat. No. 05471575001
USB Cable RTCA DP Analyzer	Cat No. 05479797001
Cleaning Tool Kit	Cat No. 00380101390



CONSUMABLES

Product	Cat No.	Description
CIM-Plate 16	05665817001	1 x 6 plates
CIM-Plate 16	05665825001	6 x 6 plates
E-Plate 16	05469830001	1 x 6 plates
E-Plate 16	05469813001	6 x 6 plates
E-Plate VIEW 16	06324738001	1 x 6 plates
E-Plate VIEW 16	06324746001	6 x 6 plates
E-Plate VIEW 16 PET	00300600890	1 x 6 plates
E-Plate VIEW 16 PET	00300600880	6 x 6 plates
E-Plate Insert 16	06465382001	1 x 6 inserts
CIM-Plate 16 Assembly Tool	05665841001	1 x CIM-Plate 16 Assembly Tool

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