

Quick Reference Guide

xCELLigence RTCA S16 System

This quick reference guide describes the setup of experiments on the xCELLigence RTCA S16 system (380601310) using RTCA Software Pro (v2.8.0 and newer).

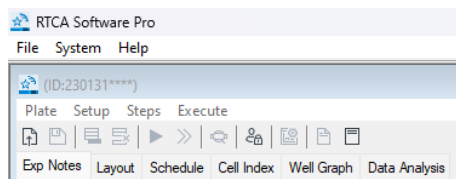
Launch the RTCA software

1. Double-click the RTCA software icon to launch the software.
2. Sign in as Administrator. The default password is *administrator*.

Set up the experiment

Exp Notes tab

Enter a name in the Experiment Name field.

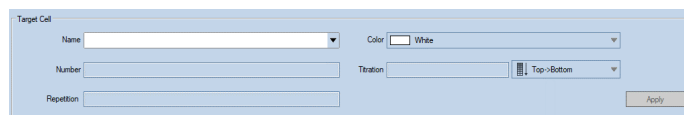


Other fields are optional.

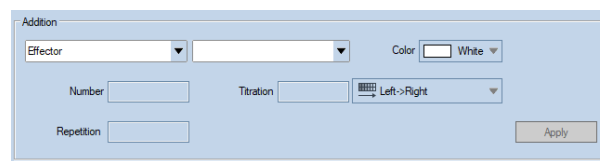
Layout tab

This information may be filled in during or after the experiment is completed.

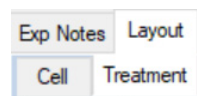
1. Click the Layout tab.
2. Select Basic or Immunotherapy (IMT)
3. Select the wells of interest, then add the Name and Number. Click **Apply**.



4. IMT: Additionally, add the Effector/Mock Effector information. Note the Titration feature.




5. Select the Treatment subtab. Select the wells.

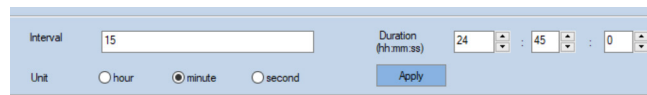


6. Add:
 - Name
 - Highest (final) concentration (Conc.)
 - Concentration Unit
 - Dilution and Direction
7. Click **Apply**.

Click the Schedule tab

The first step is the default background reading step, and is already added. No change is needed.

1. Click the  icon to add another step. The default setting is a 15-minute Interval for a Duration of 24 hours, but these can be edited.



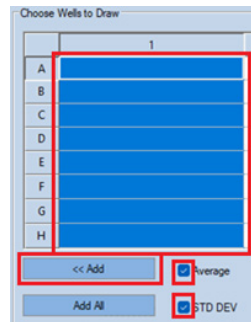
2. Click **Apply** to confirm any edits.

Run the RTCA experiment

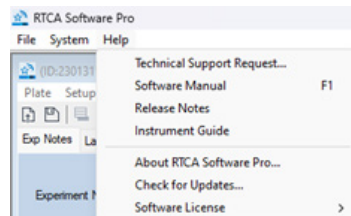
1. **Take a background reading:** Add growth media (50 to 100 μL /well) to the E-Plate. (For IMT assays, use a 50 μL background, 50 μL targets, then add effectors in 100 μL the next day). Engage the E-Plate to the cradle, and check the bottom panel (software status bar) or File Audit Trail/Message window for warnings. Contact issues can be resolved by re-engaging the plate or brushing the pins (see Manual). Click the ► icon to take the background reading.
2. **Seed cells:** Add cell suspension (50 to 100 μL /well) to the E-Plate. **Optional:** Leave the E-Plate in the tissue culture hood at room temperature for 30 minutes. 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.** Check the bottom panel or message tab for warnings. Click the ► icon to begin monitoring cell adhesion and proliferation.
4. **To add compounds or cells to the E-Plate:** Pause the experiment by clicking the pause icon before removing the E-Plate from the cradle. After treatment addition, you may resume Step 2, or add and start a new step.

Display and analyze the RTCA data


1. **Open files:** Click **Plate > Open** and choose the PLT file.
2. **Visualize the wells of interest:** On the Data Analysis tab
 - a. Left click and drag to highlight the wells of interest.
 - b. Click the **Add** button to visualize the Cell Index curve.
 - c. Activate Average and STD DEV by checking ☒.
 - d. To zoom into an area of interest, left click and drag a box around the region on the plot.



3. **Data analysis:** For detailed information on data analysis, please open the Software Manual (PDF) from the Help dropdown menu, or see our companion analysis quick guides.



Save and export RTCA data

1. Click the  button to save any changes made to the experimental notes or layout.
2. Click **Plate**, then **Export Experimental Info...** to export the data in Excel format.
3. Click **Plate > Release** to close the current RTCA experiment and start a new RTCA experiment.



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DE77119858

This information is subject to change without notice.



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Printed in the USA, March 20, 2023
5994-5834EN



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