Zeiss
Celldiscoverer 7

Startup

1. Open the main valve of the CO\(_2\) tank (if needed) by turning it one round (counter-clockwise). The tank should have a pressure of ~50 bar, the pressure reducer ~1 bar.

2. Open the front door of the instrument by pulling the lock below the TFT display to the left. Check the liquid level in the humidifier, water immersion and waste bottles.

3. To resplenish water in the humidifier, take out the bottle from its metal housing. Press the snaps on connectors A and B, and pull out the tubings. Do not disconnect the third, unlabeled connector. Resplenish only ultrapure and deionized water and re-connect tubings A and B. To resplenish immersion liquid and to empty the immersion waste bottle, press the metal snaps and pull out the tubings.
4. Activate the system by pressing the Standby button (to the left of the touch panel).

5. Power up the PC and start the ZEN software. In the "Incubation" tool (lower right corner of the workspace), check the setpoint of the temperature (default: 37°C). Activate the CO₂ checkbox ("CO₂ Small V") and set the "Pump Level" to 1 (not more!). The "Auto Immersion" tool should indicate "Sufficient" for the immersion tank level.

**Loading a sample**

1. Activate the "Sample" tab.
2. Click "Eject Tray".
3. Mount the sample. Multiwell plates can be directly inserted into the mounting frame (position A1 is indicated on the frame). For other dishes, use appropriate inserts.
4. **Make sure that the sample is installed even and can move in XY by ~1 mm.**
5. In the "Sample" tab, select the carrier. Select "Multichamber" for multiwell plates with square wells, "Multiwell" for those with round wells.
6. **Under "Carrier Data > Default Container", select a well containing liquid (this well is used for bottom thickness and material determination).**
7. Under "Prescan Options > Default Container", uncheck "Sample Carrier Detection" and "Read Barcodes" (slow and unreliable functions).
8. Click "Load Sample".
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Shutdown

1. Activate the "Sample" tab, click "Eject Tray". Remove your sample.
2. In the "Incubation" tool, uncheck "CO2 Small V". Leave "Heating" checked and at 37°C.
3. Exit and ZEN and shut down the PC.
4. Close the main valve of the CO2 tank (clockwise).
5. On the touch panel of the instrument, hit "Load Sample" (to close the unit).
6. Press the "Standby" button to the left of the display. The display will ask if the incubation (temperature) should be left ON. The instrument should continuously run at 37°C, so just acknowledge the choice with OK.