CE

Quick Manual

NESMQ-ATT-001E (V.0.5)

Arthur™

Novel fluorescence cell counter

NanoEnTek

Arthur™ Novel fluorescence cell counter

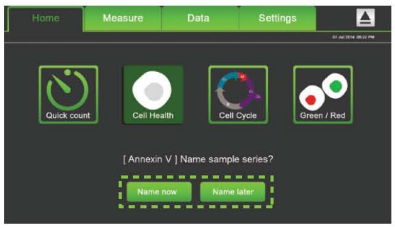
Instructions for using Arthur™, Novel fluorescence cell counter, described below. For detailed instructions, refer to the manual supplied with Arthur™ or download the manual at www.nanoentek.com.

1. Starting Arthur™

- Turn on the main **Power switch** and press the **Power button**.

2. Selecting Assay

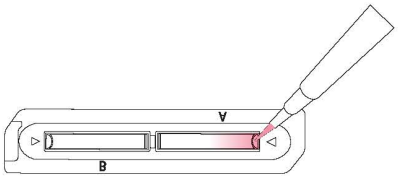
- Select one of assay functions (**Quick count, Cell Health, Cell cycle or Green/Red**).
- Press the **Name now button** or **Name later button**.
- Type the name using the keyboard and press the **Save button**.



Save

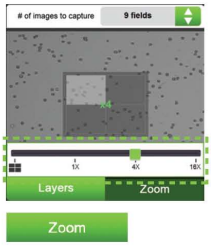
3. Loading Sample

- Load **25 µL** of your sample into the Arthur™ Cell analysis slide using a pipette.
  - ⚠ Make sure to mix the sample thoroughly before pipetitng.
  - ⚠ Load the sample gently to spread it evenly in the cell analysis slide.
  - ⚠ Pipette the sample at an angle of approximately 80° into the half moon shaped sample loading area. The sample is loaded into the chamber through capillary action.
  - ⚠ Take care to avoid forming bubbles in the sample.
- Insert the slide into the slide port in opposite direction.
  - ☞ *Arthur™ counts the cells in the chamber opposite the inserting direction.*
- Press the **Press to insert new sample button.**



Press to insert new sample

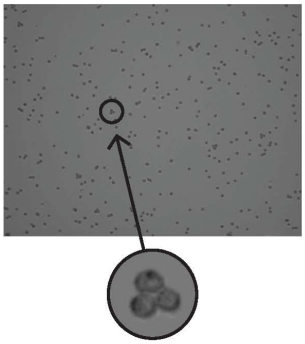
4. Focusing



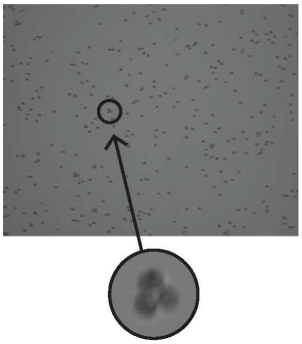
- Adjust the focus using the **Focus knob**.
- Press the **Zoom button** and select the magnification (**1x, 4x, 16x**) to review the image.

Reference images for correct focus

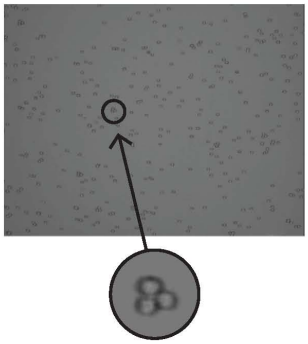
[Image is correctly focused]



[Incorrect –undercounted cells]

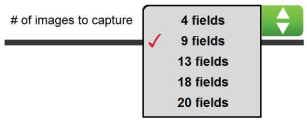


[Incorrect –overcounted cells]

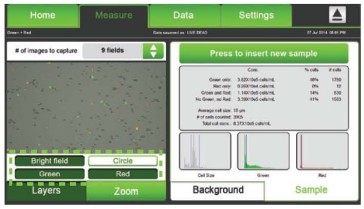


* Cell type : Hep3B

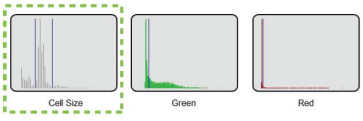
5. Running Sample



- Select the number of image to specify the number of fields of view to capture.
- Press the **Press to run sample button** to capture the selected number of images.
- Press the **thumbnail** of the image and the **Layers tab** to review images captured.
- Press the **Bright field/ Green/ Red buttons** as necessary.
- Press the **Circle button** to identify the cells counted through particular channel.

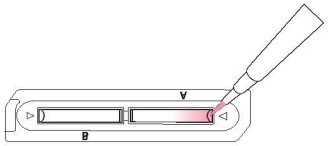


☞ *Arthur circles the cells that were analyzed as follows:*
Blue: Cells counted in bright field channel
Green: Cells counted in green fluorescence channel
Red: Cells counted in red fluorescence channel
Yellow: Cells counted in both green and Red fluorescence channel
Black: cells excluded from the counting results



Calibration

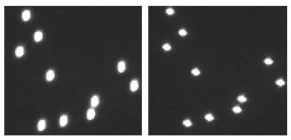
- Load **25 µL** of Arthur™ **Green Calibration Beads** into the Arthur™ Cell analysis slide.
  - ☞ *Make sure to mix the bead thoroughly before pipetitng.*
  - ☞ *Load the sample gently to spread it evenly in the cell analysis slide.*



- Press the **Calibrate Green/Red button** to start calibration procedure.

- Insert the slide into the slide port and press the **Insert sample button.**

- Adjust the focus using the **Focus knob**.
  - ☞ *When correctly focused, the calibration beads will appear round rather than oblong.*



Correct focus Incorrect focus

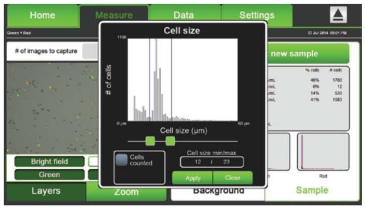
- Press the **Run button** to start the auto calibration of the green channel.

- When the green channel calibration is complete, repeat the calibration process using the **Arthur™ Red Calibration Beads**.
- Press the **OK button** when red channel calibration is complete.

⚠ Insert slide with calibration beads just at the time of use, to prevent drying of solution in slide.

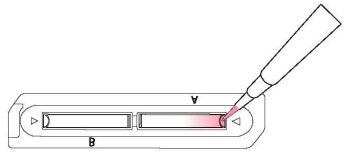
⚠ Allow the beads to settle in the slide before pressing run. There should be no movement of beads on the image.

- Press the **cell size thumbnail** to set the gating parameters for cell size.
- Move the two **green square buttons** on the slider to set the minimum cell size and maximum cell size.
- Press the **Apply button** to confirm and return to the previous screen.



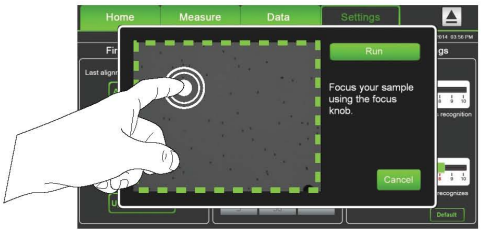
Aligning cameras

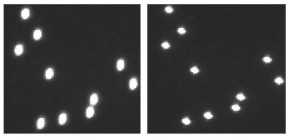
- Load **25 µL** of Arthur™ Alignment Beads into the Arthur Cell analysis slide.
  - ☞ *Make sure to mix the bead thoroughly before pipetitng.*
  - ☞ *Load the sample gently to spread it evenly in the cell analysis slide.*
- Press the **Align cameras** to start the alignment procedure.
- Insert the slide into the slide port and press the **Insert sample button**.
- Adjust the focus using the **Focus knob**.
- Touch the screen to magnify the image.
  - ☞ *When correctly focused, the calibration beads will appear round rather than oblong.*



Align cameras

Insert sample

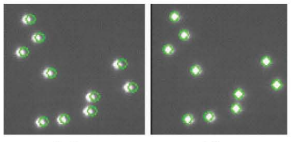




Correct focus Incorrect focus

- Press the **Run button** to start the auto-alignment.
- Press the directional arrows to overlay the green circles to the corresponding beads.
- Press the **OK button** to set the alignment.

Run



Before After

OK

Arthur™

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NanoEnTek

Website www.nanoentek.com E-mail sales@nanoentek.com

NanoEnTek Inc. (HQ) 12F, 5, Digital-ro 26-gil, Guro-gu, Seoul, 152-740, Korea/ Tel : +82-2-6220-7940, Fax : +82-2-6220-7721

NanoEnTek USA Inc. 5627 Stoneridge Drive Suite 304, Pleasanton, CA 94588, USA/ Tel :+1-925-225-0108, Fax:+1-925-225-0109