



Auto Exposure Mode

Software Update for the LUNA, LUNA-II, and LUNA-FL

2017.06.16

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Introduction: Auto Exposure Mode



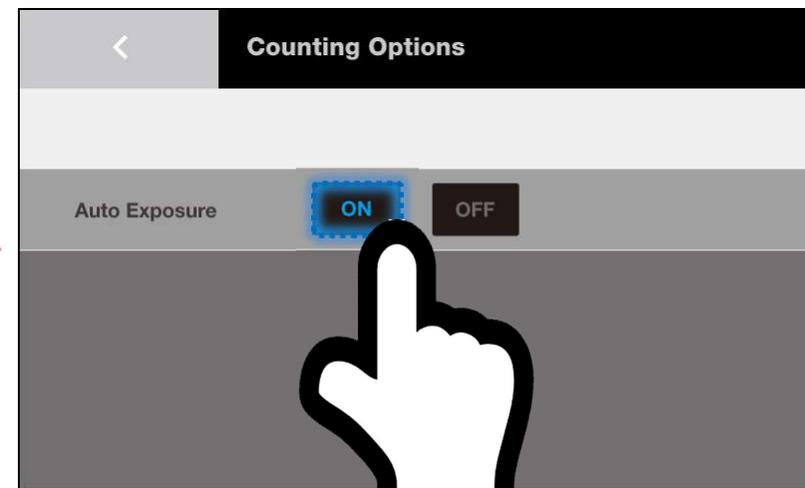
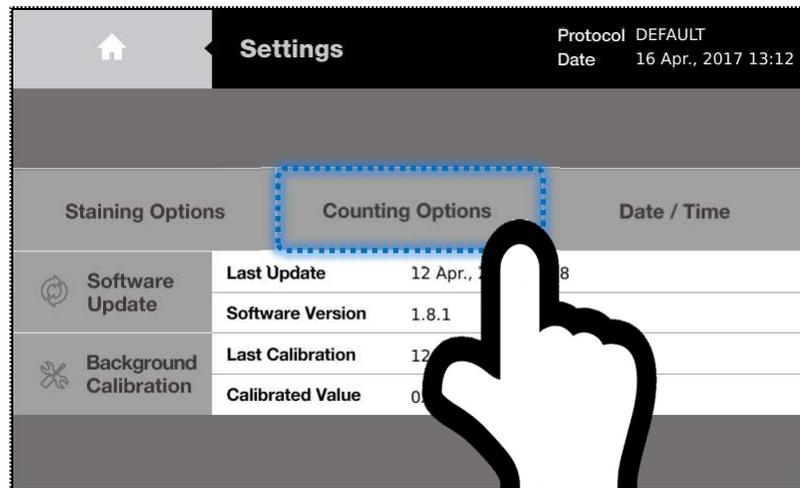
- Automatically adjust the light settings (the exposure) of the image
- Added to ensure accuracy of counting results regardless of the brand, concentration, and shade of trypan blue (TB) used
- Underexposed image/dark TB: too dark to pick out details → INACCURATE RESULTS
- Overexposed/light TB: too bright and can lose details → INACCURATE RESULTS
- Added to the LUNA-II, LUNA, and LUNA-FL (brightfield counting)

Introduction: Auto Exposure Mode

Settings

↪ Counting Options

↪ Auto Exposure : ON



Materials and Methods

Materials

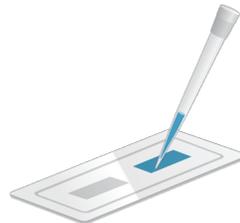
- Cells: **50% viable HL-60**
- Counters: **LUNA-II, LUNA, LUNA-FL**
- Stains: **0.1-0.8% Trypan blue**

Protocol

1. Prepare a 1:1 mixture of HL-60 and trypan blue.



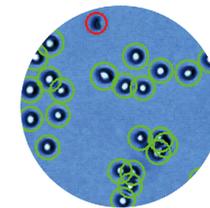
2. Load 10-12 μ L into a cell counting slide.



3. Put the slide into the counter.



4. Focus in on the cell sample. Press **Count**.



LUNA-II

AE OFF

- Optimal TB concentration = 0.4%
 - Less = decreased live cell sensitivity
 - More = out of range

AE ON

- Optimal TB concentration = 0.1-0.6%
 - More (>0.8%) = decreased live cell sensitivity

LUNA, LUNA-FL

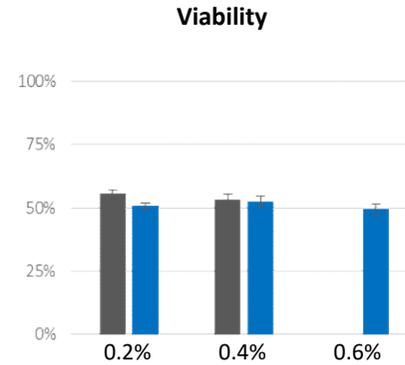
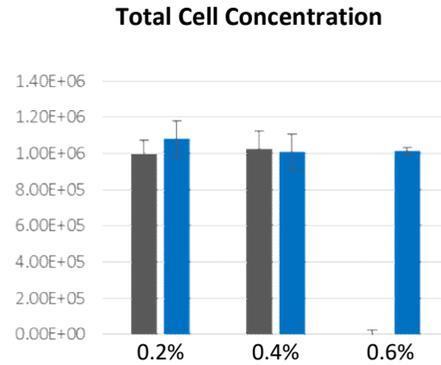
- ! When TB concentrations vary, focusing properly is more important than AE mode.

AE OFF

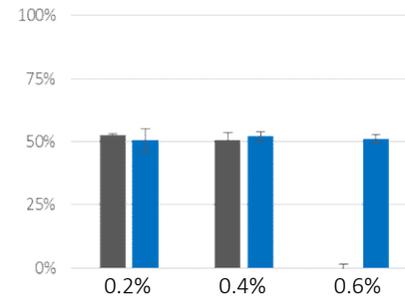
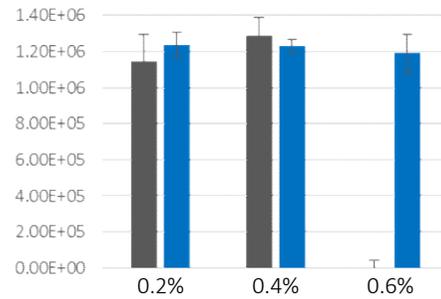
- Optimal TB concentration = 0.4%
 - More (>0.5%) = out of range

Results

LUNA-II



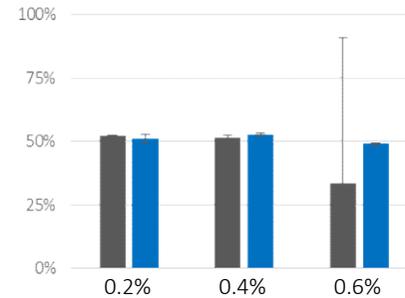
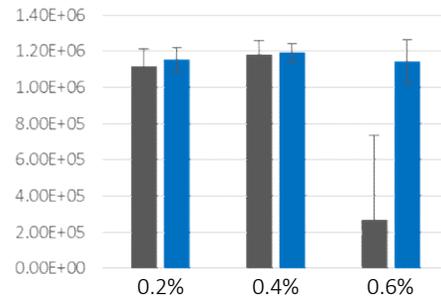
LUNA



AE OFF

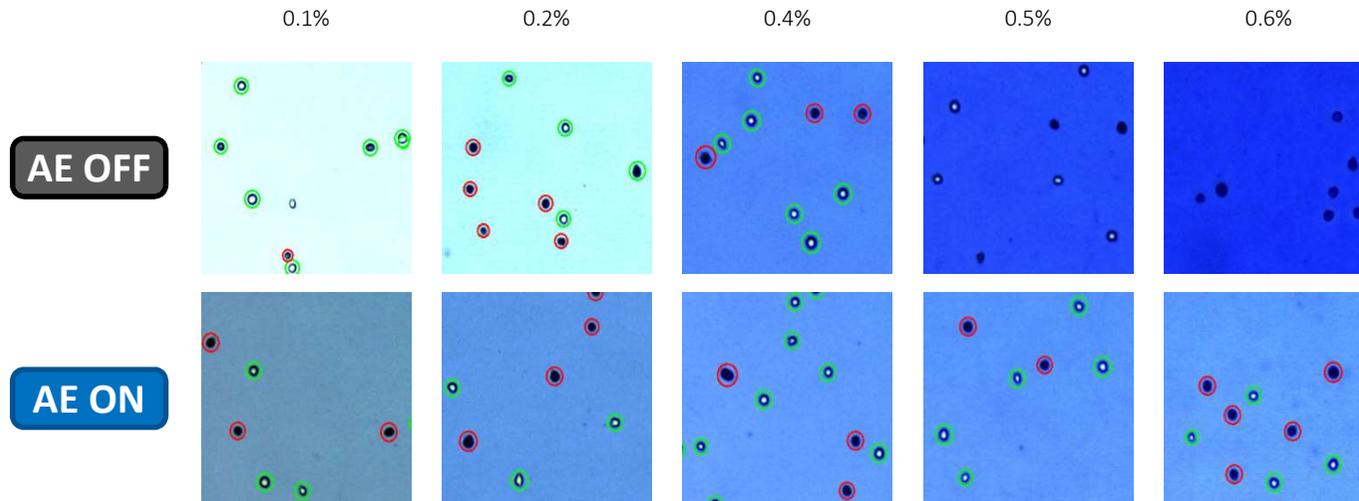
AE ON

LUNA-FL

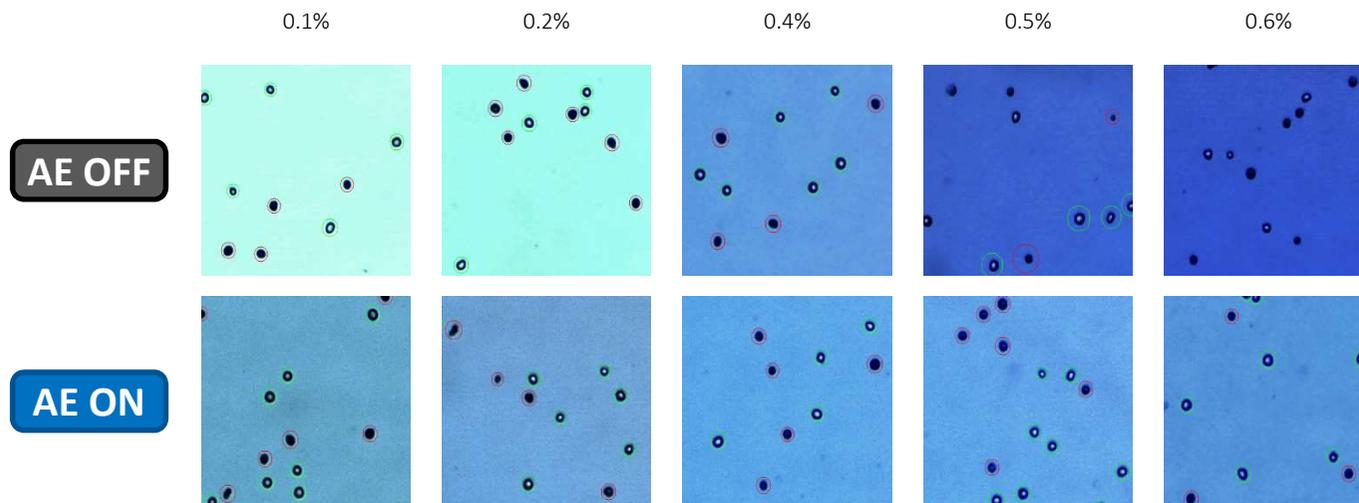


Results

LUNA-II



LUNA

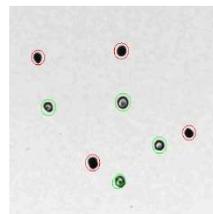


Results

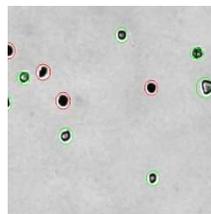
LUNA-FL

AE OFF

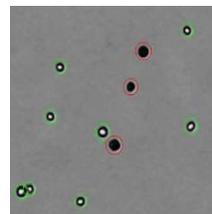
0.1%



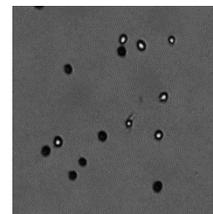
0.2%



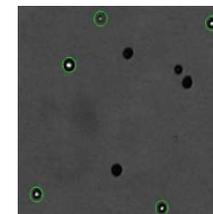
0.4%



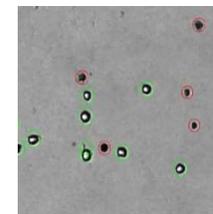
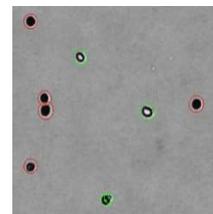
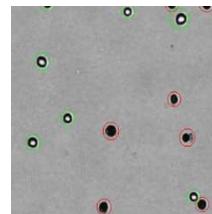
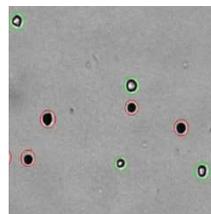
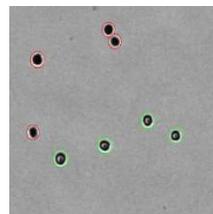
0.5%



0.6%



AE ON



Conclusion

Auto Exposure Mode:

- ↪ automatically adjusts light settings.
- ↪ ensures the accuracy of counting results regardless of the brand, concentration, and shade of trypan blue used
- ↪ is especially important when using higher concentrations of trypan blue.
- ↪ is available starting from the following versions of software:
 - LUNA v3.4.0
 - LUNA-FL v3.0.0
 - LUNA-II v1.8.2