Auto Exposure Mode

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

2017.06.16
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 μL into a cell counting slide.
3. Put the slide into the counter.
**Results**

**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

<table>
<thead>
<tr>
<th>AE OFF</th>
<th>AE ON</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Images](0.1%, 0.2%, 0.4%, 0.5%, 0.6%)</td>
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LUNA

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</table>
Results

LUNA-FL

AE OFF

AE ON

0.1% 0.2% 0.4% 0.5% 0.6%
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