AT QC Kit Quick Guide

Getting Started

1. Humidity & Temperature

Ensure acceptable lab conditions: Generally, relative humidity between 30% and 50%, temperature between 20 ℃ and 25℃.

2. Generating a Template in GLH-Tracker Desktop

A. Select "Channel Configuration" of instrument. Refer to the "Rows" and "Channels" in Figure 2.

B. Select "Channel Spacing" of instrument and "Plate Format". Refer to "Plate Format" selection for channel spacing guidance.

C. Select "Dispensing Method". Refer to Figure 2 for guidance. The "Full Plate" dispensing method assumes a single dispense to fill the plate. "Z-Pattern" is sometimes called quadrant dispense.

D. For "Experiment Type", select "V&V" to simply test volume delivery or "QC" to help calibrate the liquid handling instrument, and check "Reader Test" to validate a reader.

 E. Select the "Plate Filled/Target (Replicates)". The plate is filled in the direction of and according to the "Dispensing Method" selected above. And Select desired "Target Quantity"

Note: Greater replicate count results in higher confidence for individual channel CV.

F. Select "Reference Type". "Single Row" and "Full Plate" require manual dispensing.

G. Read the label on the reagent bottles and select "Diluent" and "Dye Lot Number" accordingly.

Note: For **NIST-traceable** results, check "Reader Correction" if auto-generating a reference or "Reader Test" at the scan-wavelength if manually dispensing.

F. Click "Generate Template".

3. Input Values into "Target" Sheet

Input Target Volume(s) and Accuracy/Precision Criteria. The "Sample Dye Type" and "Diluent Volume" will be auto-generated.

Target No.	Target Volume (uL)	Sample Dye Type	Diluent Volume (uL)	Accuracy Criteria (%)	Precision Criteria (%)
1	5	BULK	195	5	5
2	10	BULK	190	5	5
3	15	BULK	185	5	5
4	20	BULK	180	5	5

Figure 1. Target Sheet Inputs

4. Prepare Reference Curve (if not Auto-Generating)

Dispense 1000 μL of reference dye into a 24-Well plate 200 μL into a 96-Well Plate, 50 μL into a 384-Well Plate, 8 μL into a 1536-Well Plate using a calibrated pipette.
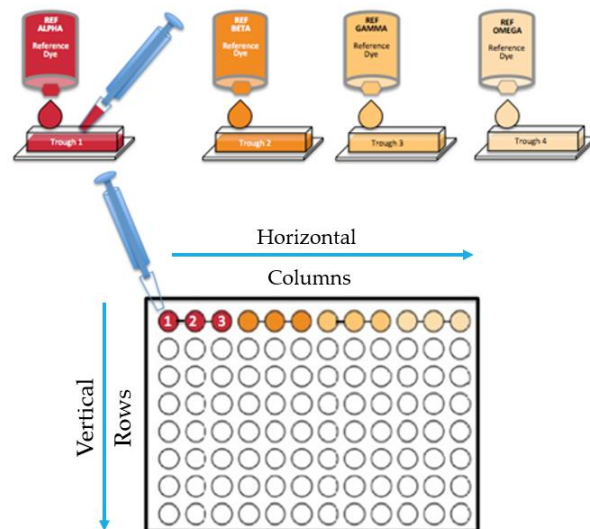

Figure 2. Reference Plate & Diagram

Tip: To avoid evaporation effects, always keep microtiter plate lids on when not dispensing.

5. Input Values into "REF Signal" Sheet

Scan your reference plate (if manually dispensing) at 4## nm and input values into "REF Signal".

6. Preparing Your "Test" Plate

Dispense according to your chosen "Target Volumes". Example of an 8-Channel, 3-Replicate, QC Experiment (see Figure 2 Inputs) shown below:

5-20 uL Full Calibration for 8 Tip Device
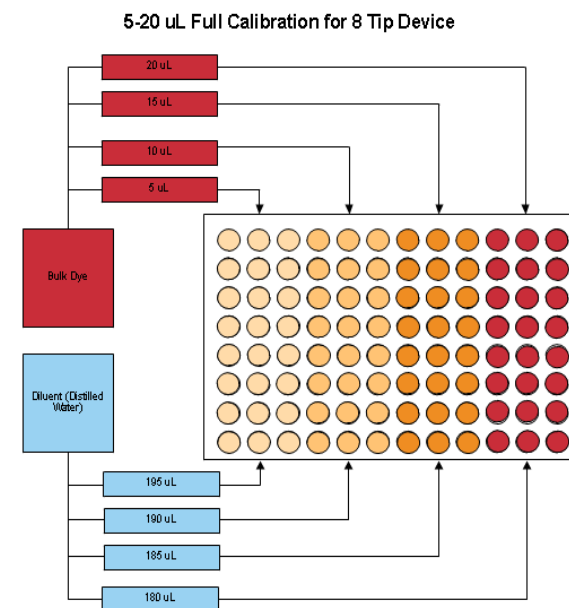
Note: The test plate is always filled from left to right following the "Target" volumes from the top down.

Tip: Wash/change tips in between steps to avoid residual mixing.

7. Input Values into "Signal Test" Sheets

Scan your test plate at the same wavelengths used for the reference plate and input values into the "…Test" Sheets.

8. Applying Corrective Values (QC)

Adjust settings to improve delivery for "V&V" tests, or input "Slope" and "Offset" values into your ALH software to adjust for error. Repeat as needed.