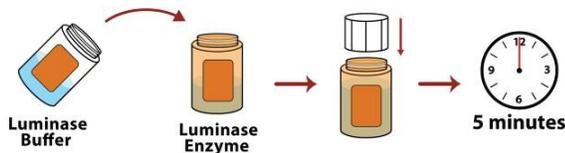


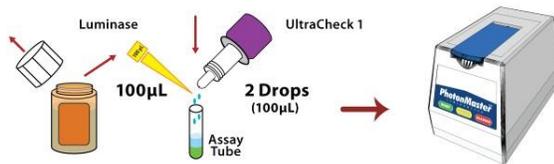
REHYDRATING LUMINASE

- Gently mix the buffer and **Luminase** enzyme.
- Wait 5 minutes for solution to dissolve.



1. ULTRACHECK CALIBRATION (RLU_{ATP1})

- Hold the UltraCheck1 bottle vertical, **add 2 drops** (100µL) of **UltraCheck1** to a 12x55mm test tube.
- Pipet 100µL of **Luminase** into the tube.
- Swirl the tube and take reading within 10 seconds.

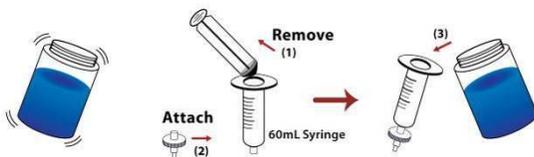


* If $RLU_{ATP1} \leq 5,000$ rehydrate a new bottle of Luminase.

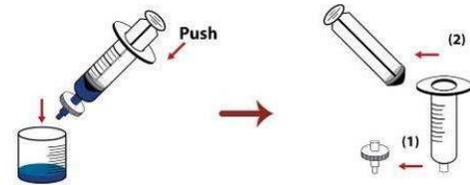
2. CELLULAR ATP ANALYSIS (RLU_{CATP})

2.1 FILTRATION

- Mix sample well.
- Remove the plunger from a 60mL syringe.
- Attach the filter.
- Pour 20-50 mL of sample into the syringe.

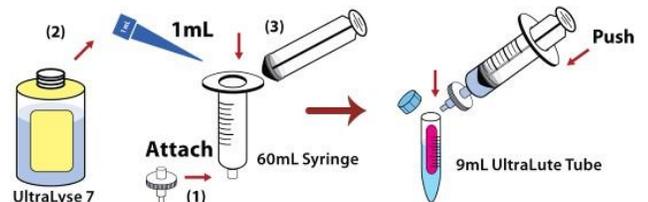


- Slowly push sample through the filter into waste receptacle.
- Detach the filter.
- Remove the plunger.



2.2 EXTRACTION

- Re-attach filter.
- Add 1mL of **UltraLyse 7** to the syringe.
- Filter slowly and collect in a new **9mL UltraLute (Dilution) Tube**.
- Cap and invert three times to mix.



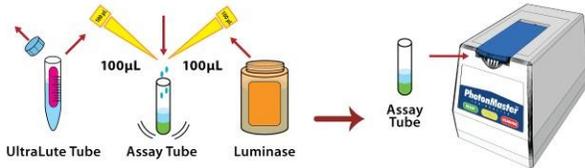
2.3 BACKGROUND MEASUREMENT

- Pipet 100µL of the **Luminase** into a new, clean 12x55mm test tube.
- Put the test tube with **Luminase** into your luminometer and take a reading.
- Record the reading as *Background RLU*. This reading should be below 20 RLU. This tube can then be used for your sample assay (Step 2.4).

TIP: If the results are above 20 RLU, this indicates that some external factors (light, contamination) may be influencing your results. LuminUltra offers cleaning kits for your luminometer. Please contact us to discuss

2.4 ASSAY

- Add 100µL of the **UltraLute (Dilution)** solution to a 12x55mm test tube.
- Use a new pipet tip to add 100µL of **Luminase** from step 2.3 into the test tube
- Swirl the tube and take reading within 10 seconds.



Calculations

To automatically calculate ATP, use **LuminUltra Cloud**.

Cellular ATP (**cATP**) represents the amount of ATP contained within living cells and is a direct indication of total living biomass quantity.

$$cATP \text{ (pg ATP / mL)} = \frac{RLU_{cATP}}{RLU_{ATP1}} \times \frac{10,000 \text{ (pg ATP)}}{V_{Sample} \text{ (mL)}}$$

Data Interpretation Guidelines

Sample Type	Good Control (pg cATP/mL)	Corrective Action (pg cATP/mL)
High-Purity Water	<0.1	>1.0
Potable Water	<1	>10
Cooling Water Oxidizing Biocides	<10	>100
Cooling Water Non-Oxidizing Biocides	<100	>1,000