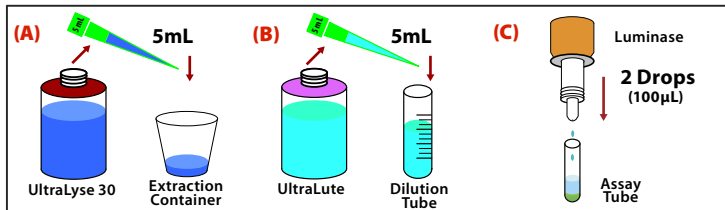


fbATP QUICK - REFERENCE GUIDE

Note: Use fbATP in conjunction with QG21W tATP and dATP

1. PREPARATION

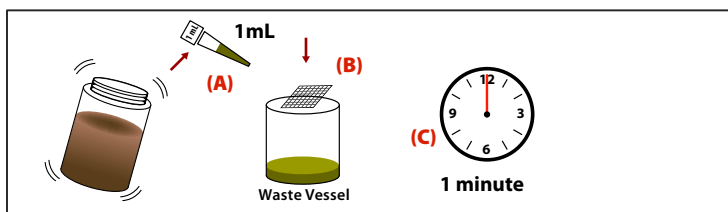
Prepare the following: 5mL of UltraLyse 30 into the supplied extraction container (A), 5mL UltraLute into a 17x100mm tube (B), and 2 drops Luminase into a 12x55mm tube (C).



NOTE: Remove Luminase from fridge ~1 hour prior to measurement.

2. MESH FILTRATION

Using forceps, hold a 2 in. x 2in. piece of 250µm mesh horizontally over a waste vessel (A). Pipet 1mL of mixed sample through the mesh (B). Allow 1 minute for sample to pass through mesh into beaker (C).



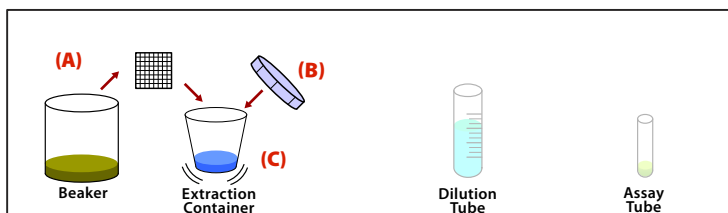
NOTE: Always use a new pipette tip for each pipetting step!

NOTE: Clean forceps are recommended for holding the mesh over the beaker.

NOTE: Dispose of filtrate.

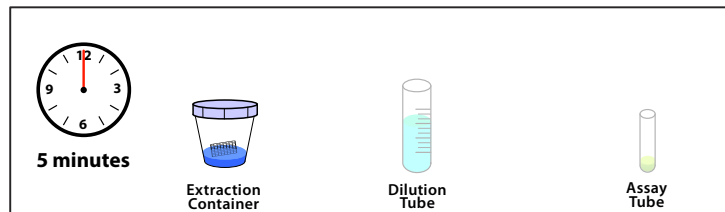
3. EXTRACTION

Using forceps, place mesh into Extraction Container (A). Cap (B) and mix (C).



4. INCUBATION

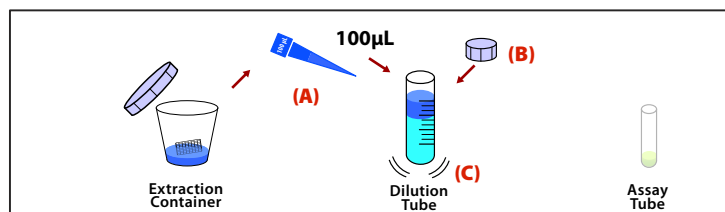
Allow 5 minutes for solids and mesh to settle in the extraction container.



NOTE: Extract is stable for up to 1 week if stored between 2–8 °C.

5. DILUTION

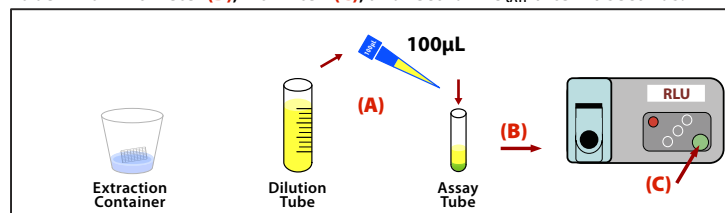
After incubation, transfer 100µL of extract supernatant to the Dilution Tube (A). Cap (B) and mix (C).



NOTE: Proceed to assay step immediately upon dilution.

6. ASSAY

Transfer 100µL of diluted extract to the Assay Tube (A). Immediately place Assay Tube in Luminometer (B), hit 'Enter' (C), and record RLU_{tATP} after 10 seconds.



NOTE: If "SCALE OVER" is obtained, mix the dilution extract 1:1 in UltraBuff and repeat step 5.

↗ UltraCheck 1 calibration is required to convert RLU to ATP concentration.

↗ For a list of equipment requirements, consult the fbATP Fact Sheet.

↗ See reverse for additional test kit use notes and tips.

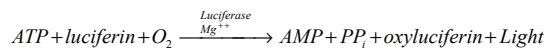


LUMINULTRA™

fbATP QUICK-REFERENCE GUIDE

ATP: The Basics

LuminUltra's test protocols are based on the measurement of Adenosine Triphosphate (ATP). ATP is a direct and interference-free indicator of total biomass. ATP is measured using the **firefly luciferase assay**, where a sample containing ATP is introduced to a solution containing the enzyme Luciferase, which naturally occurs in the tails of fire flies, to produce light. The light is detected in a Luminometer.



Kit Use and Interpretation

fbATP is designed for measurement of biomass bulking in biological wastewater treatment.

The fbATP test kit is designed as a supplement to the QG21W test kit and should be used concurrently with that kit.

For integration into control programs, LuminUltra recommends that testing be done at least daily!

For additional test kit use guidelines, consult the fbATP fact sheet or visit www.luminultra.com.

Calculations

The following formulae are used to calculate fbATP parameters. Note that RLU_{UC1} should be obtained on the same day and time as the sample RLU 's. A single RLU_{UC1} can be used for a series of samples processed together. The procedure UC1 calibration is found on the QG21W Quick-Reference Guide. For easy calculation, make use of LuminUltra's easy-to-use **LumiCapture™** software!

$$fbATP \text{ (ng / mL)} = \frac{RLU_{fbATP}}{RLU_{UC1}} \times 306$$

Note: For sample analyses using the fbATP method, the standard QG21W tATP analysis should be performed first. This will allow calculation of "specific" fbATP (s-fbATP):

$$s - fbATP \text{ (\%)} = \frac{fbATP}{tATP} *$$

* For tATP procedures, consult QG21W Quick-Reference Guide.

Test Kit Handling

- Consult reagent labels for storage conditions.
- Download MSDS at www.luminultra.com.
- Waste reagent can be discarded as general waste in most cases. Consult MSDS for more information.
- When performing multiple tests, perform preparation steps all at once to save time.
- If assay interferences are suspected, contact LuminUltra to troubleshoot.

Tips

- Avoid analysis and reagent contamination by always using a new pipette tip for each pipetting step!
- Because ATP and bacteria are present on skin, it is important not to touch the surface of pipette tips.
- Because fbATP is a test for biological characteristics, and biological characteristics will begin to change immediately upon collection, **analyze samples within 2 hours of collection.**
- Wide-mouth pipette tips should be used for samples containing large particles.



ISO 9001:2000

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