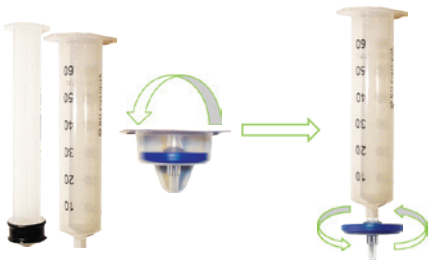
GL Biocontrol procedures

DENDRIDIAG® SW
ATP tests for drinking water

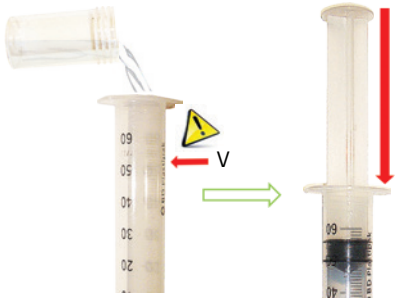
Quantification of total flora in drinking water by ATP-metry

Take the dropper bottles of **EXTRACTANT** and **STANDARD** out of the box as well as a **LUMITUBE** bag. Make sure they are at room temperature (above 18°C) before use. Prepare the plastic consumables (sampling container, syringe and filter) and turn on the luminometer. The video tutorial is available at www.gl-biocontrol.com/video-tutorials.

1. Open a bag of **LUMITUBE** and take one lumitube.
Remove the aluminium seal and place the lumitube on the rack supplied.

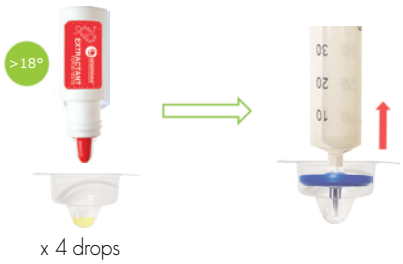


2. Remove the syringe piston and put it down being careful not to touch the black part. Open the cap of the filter packaging (do not discarding it). Firmly screw the syringe on the filter.

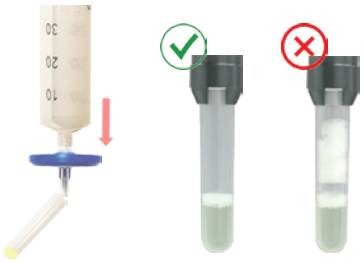


3. Pour 50ml in the syringe. Write down the exact volume analysed. Filter vertically all the sample until you feel a resistance. Stop immediatly to avoid drying the filter (10 ml of air remaining).

From this step, no break time is allowed.



4. Put 4 drops of **EXTRACTANT** in the bottom of the filter's plastic packaging. Place the filter tip in the bottom of the packaging. Suck up all the reagents and maintain the depression in the syringe.



5. Push the liquid out of the syringe into a lumitube until a white foam comes out. Stop the pressure as soons as the foam appears to avoid creating a «stopper» in the upper part.

6. Fix the lumitube to the tube holder. Place them in the luminometer and press the ENTER button to start measurement.
Write down the R1 result (in RLU).

7. Immediately, get the tube holder out of the luminometer. Take the lumitube off the tube holder and add one drop of **STANDARD** in the middle of the lumitube.

8. Fix the lumitube to the tube holder and homogenize the mix by tapping the lumitube on a flat surface. Place them in the luminometer and press Enter. Write down the R2 result (in RLU).

9. Calculations (automatically done by the Excel table or the webapp):

$$\underset{\text{(in RLU/pg)}}{\text{Standard}} = \frac{R2 - R1}{1\,000}$$

$$\underset{\text{(in pg/ml)}}{[\text{ ATP }]} = \frac{R1}{\text{Standard} \times V}$$

With:
R1 (in RLU): result of the sample,
R2 (in RLU): result after standardization,
V (in ml): volume filtered,
[ATP]: picogram of ATP per milliliter.

ATP concentration is given in picogram of ATP per milliliter (pgATP/ml). It can be expressed in equivalent bacteria per milliliter (eq.bact./ml) based on the following scientific consensus: **1 picogram ATP ≈ 1 000 bacteria**.
The Excel table and the webapp give you these results.

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