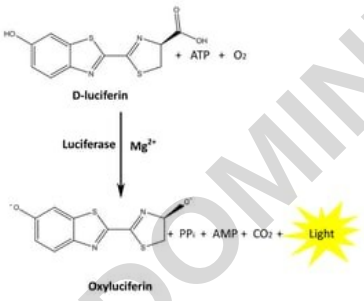
ATP • FemtoFLOW

1. Description

The ATP-FemtoFLOW surface test is a single-use device designed for ultra-sensitive detection of contamination on surfaces, equipment, and environments that demand the highest standards of cleanliness. Using a pre-moistened swab to collect samples, ATP -FemtoFLOW can identify even the smallest traces of contaminants that could compromise hygiene. This four times more sensitive test can be exploited in places where cleanliness is critical, such as hospitals, clinics, cell culture laboratories, or food processing facilities, and ensures that even the smallest contaminant is detected. This enables you to maintain the highest standards of hygiene, protecting both your environment and those who depend on it.

2. Principal of the assay

ATP (Adenosine triphosphate) is a molecular present in all living organisms, so it is a good indicator of the presence of microorganisms or residues thereof that may promote their growth. After proper cleaning, all sources of ATP should be significantly reduced. When monitoring begins, the reagent in the test (Luciferase/Luciferin) reacts with the ATP collected on the swab to produce luminescence (Scheme 1). The intensity of the light emitted is proportional to the amount of the ATP, and therefore, it is also proportional to the degree of contamination. Measurement of the light requires the use of a PhosReader Luminometer and the results are displayed in Relative Light Units (RLU). RLU results provide information on the level of contamination within seconds.



Scheme 1. ATP detection scheme

3. Reagents provided

The ATP-FemtoFLOW kit contains 25 ready to use test devices for 25 measurements.

ATP-FemtoFLOW	SW1325
Foil containing 25 ATP-FemtoFLOW tests	1pc
E-Manual	

4. Storage Instructions

The ATP-FemtoFLOW swabs should be stored at temperature between 2-8 °C, away from light. Its shelf life is 14 months when stored at the recommended temperature .Store in its packaging until use. Refer to expiration date on label.

5. Instructions for Use

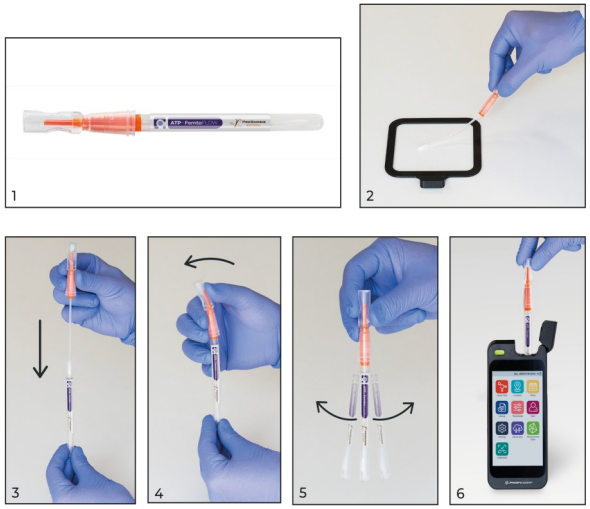
- Allow ***ATP-FemtoFLOW*** surface test to equilibrate to room temperature (21-25 °C) before use(fig.1). *Do not use the test if you have just removed it from the fridge. If the device is activated by accident, do not use it.*
- Hold the test firmly and then rotate and unscrew the reaction tube below the orange connector of ATP-FemtoFLOW test, swab thoroughly over a sampling area within a range of 100cm^2 (10cm x 10cm). Make sure the swab is rubbed in all possible direction on the surface (horizontal, back and forth vertical, and diagonal motions (fig.2)
- After swabbing, replace the swab back to tube.(fig.3)
- Hold the test vertically in your hand, activate it by breaking the inside mechanism by gently bending the bulb back and forth and squeeze until to expel all liquid into the tube (fig.4).
- Shake the test vigorously sideways for at least 5sec (fig.5). *Do not use vortex to make the reagent completely react with the sample.*
- Once activated the swab quickly insert the ATP-FemtoFLOW surface test into the test chamber of the PhosReader Luminometer. After closing the Luminometer cover, press the central button (OK) to obtain the RLU value. Result will be displayed in 10 sec (fig.6)

IMPORTANT:
Read carefully the instructions for use of the Luminometer instrument.

6. Precautions & Safety

6.1 Precautions related to the procedure

1. Disposable gloves should be worn during the experiment to avoid contamination of exogenous ATP.
2. Make sure that the cotton swab comes only in contact with the surface of subject to be tested.
3. Once activated the swab must be placed in the PhosReader instrument and read it within 10sec. The ATP-FemtoFLOW test, may be labeled, stored and left unactivated before activation and measurement.
4. The swabbing area in standard operating is 10cm x 10cm. For irregular surfaces, it's important to ensure that a continuous and consistent method is used for each test of each control point. The control points should be established taking into consideration of the special structure of individual objects.
5. If there is remaining liquid on the surface of subject to be tested, the test shall be conducted after drying the surface area to avoid diluting the reagent.
6. Do not use ATP-FemtoFLOW surface swab in direct sunlight.



6.2 Health and safety precautions

1. The internal reagent of ATP-FemtoFLOW test is diluted and can be safely used for detection in food processing industry.
2. If standard lab operation procedures are strictly followed, the compositions of ATP-FemtoFLOW test will not be harmful for human health.
3. In case the internal reagent of ATP-FemtoFLOW test comes into contact with eyes or skin, please flush eyes or skin with plenty of water. Do not ingest, inhale, get in eyes , on skin, or on clothing. The material safety data (MSDS) can be provided in demand.
4. Dispose of this product after use, according to your country's health regulations

7. Interpretation of Results

The portable PhosReader Luminometer takes the light energy as reference to output the test value and displays the test result in quantitative and qualitative form. Due to the high sensitivity of ATP-FemtoFLOW, this test generates more light per ATP molecule compared to standard ATP swab tests (fig.7), resulting in a limit of detection (LOD) that is four times lower (0.13 fmoles). By using preset limits with ATP-FemtoFLOW tests, the standard for cleanliness can be significantly enhanced. However, these values should be considered as guidelines and manufacturers of ATP testing swabs may adjust the limits based on the specific requirements of their facility. According to the user-defined upper and lower limits, the detector will automatically offer the determination of the test result and displayed as <PASS> , <CAUTION> or <FAIL>.

- <PASS> Readings less than 10 RLU indicate surface is considered clean.
- <CAUTION> Readings with range between 10-30 RLU indicate Caution, surface is not adequately clean.
- <FAIL> Readings greater than 30 RLU indicate that the surface is dirty.

Thus, exploiting ATP-FemtoFlow's improved detection capability could lead to a stricter and more thorough cleanliness evaluation.

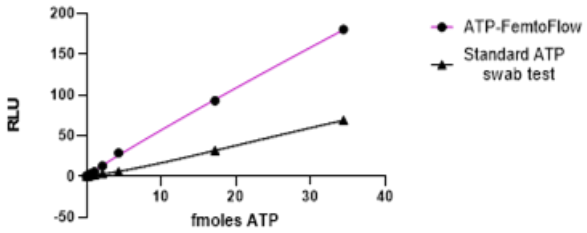


Figure 7. Linearity of ATP-FemtoFLOW and Standard ATP swab test.

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