

ATP Surface Swab

USER MANUAL

Product No.: YL0002

Overview

The ATP Surface Swab is an ATP detection product designed to be used in conjunction with a luminometer. ATP (Adenosine Triphosphate) is universally present in all living cells (including microorganisms) and provides energy for cellular activities. This product monitors the hygiene level of equipment surfaces and various environments across multiple industries by detecting the amount of ATP present on surfaces.

The product works by utilizing luciferase to catalyze the reaction between ATP and luciferin. During testing, under the catalytic action of luciferase, ATP present in the sample reacts with luciferin to produce fluorescence. The fluorescence intensity (expressed as RLU value) is proportional to the ATP content. A higher RLU value indicates a higher ATP concentration in the sample, which corresponds to a dirtier surface.

Kit Composition

Composition	Quantity
ATP Surface Swab	100 tests
Instruction	1 copy
COA	1 copy

Applicable Instruments and Detection Sensitivity

Model Number	Limit of Detection
YZ3500	5×10^{-16} mol
YZ3000L	10^{-15} mol

Important Tips and Notes Before Starting the Test

- Allow the ATP Surface Swab to equilibrate to room temperature (20 °C-25 °C) before use.
- The swab tip is pre-moistened for maximum sample collection.
- Condensation may be visible on the inside of the swab tube; this is normal.
- Turn on the luminometer and place it on a stable, level surface before performing the test.
- The ATP Surface Swabs are designed to detect invisible/trace amounts of residue. Overloading the swab with physical matter by swabbing a visibly dirty surface will inhibit the bioluminescent reaction and produce inaccurate results.
- For water samples, use ATP Water Swab.

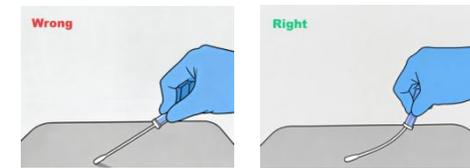
Operation Procedure

- 1) Take out the swab: Holding the swab tube firmly, twist and pull the top of the swab out of the tube (Do not pull out the swab directly!)
- 2) Swab sampling: Thoroughly swab a standard area of 10 × 10 cm (4 × 4 inches) using a zigzag wiping method, after sampling is completed, place the swab back into the swab tube.

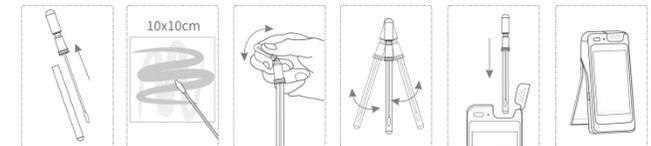
Important swabbing technique tips:

- Do not touch the swab or the inside of the sample device with your fingers.
- Wipe the surface of the object evenly in a zigzag pattern, including vertically, horizontally, and diagonally in both directions.
- For irregular surfaces, maintain a consistent swabbing technique during each test; swab a large enough area to collect a representative sample.
- Rotate the swab while collecting the sample to maximize sample collection on the swab tip.
- Apply sufficient pressure to create flex in the swab

shaft (As shown in the figure below).



- 3) Activate the swab: Hold the swab tube firmly and use your thumb and forefinger to break the Snap-Valve by bending the bulb forward and backward. Squeeze the bulb twice to expel all the liquid down the swab shaft.
- 4) Mix and shake: Shake vigorously for 10 seconds to fully mix the collected sample with the liquid. Once activated, the sample must be read within 30 seconds.
- 5) Insert into the luminometer: Keep the luminometer placed steadily, and insert the entire swab into the luminometer.
- 6) Sample Detection: Please refer to the instrument manual for detailed operating instructions. In brief: when using the YZ3500 or YZ3000L luminometer, close the detection chamber. The luminometer will automatically recognize the swab, and the test result will be displayed on the screen after 10 seconds. If the automatic detection function fails, testing may be continued by clicking the retest button on the screen.



Interpretation of Results

The ATP Surface Swabs can be used with the YZ3500 or YZ3000L luminometer. These luminometers are pre-set with pass and fail RLU thresholds, and the results can be interpreted according to Table 1. Users are recommended to set the thresholds in accordance with the standards of their respective institutions or industries.

Table 1. Default RLU Threshold Settings of the Luminometer

Luminometer	Threshold	Result
YZ3500	0-20	Pass (Clean)
	20-60	Caution (Warning)
	>60	Fail (Dirty)
YZ3000L	0-10	Pass (Clean)
	10-30	Caution (Warning)
	>30	Fail (Dirty)

Storage and Shelf Life

2-8 °C, store away from light, valid for 12 months.

Safety and Precautions

- Do not use the product beyond its expiration date.
- ATP Surface Swabs are for one-time use. Do not reuse.
- Components of ATP Surface Swabs do not pose any health risk when used in accordance with standard laboratory practices and the procedures of this insert.
- ATP Surface Swabs are made of 100% recyclable plastic and may be discarded accordingly.

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