ProLumino

Easiest cleaning test

An innovative hygiene monitoring instrument using ATP-AMP measurement

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Discover a new dimension in hygiene monitoring

HACCP is an extremely clean affair

- A manufacture of cosmetics, beverages or food?
- Engaged in water treatment or the tanked transport of food?
- Responsible for controlling production-based cleaning?
- You require quick and reliable hygiene monitoring results?

Operators of areas subject to a HACCP concept are reliant on cleanliness monitoring. The Lumimeter and belonging Swab provide the highest certainty within the shortest time that your areas of responsibility satisfy hygiene standards. Manufactures within food and beverages, restaurants, hotels, sauna managers and swimming pool attendants all use the lumimeter to obtain a quick and accurate measurement of microbial contamination. Art restorers use our product to check the cleanliness of works of art. Airlines examine the cleanliness of their on-board kitchens and toilets in real time. Canteen kitchens, hospitals and medical and pharmaceutical firms also use our products to ensure hygiene safety in their production areas.

What is measured how?

The patented procedure used in the Lumimeter is based on the measurement of biolumines- cence, a product produced during the enzymatic decomposition of adenosine triphosphate (ATP) and adenosine monophosphate (AMP) using luciferase and pyruvate phosphate dikinase (PPDK, patent no. US 6054305).

ATP and AMP are molecules present in the cells of all living organisms – whether animals, plants, fungi, yeast or bacteria. AMP is produced from the ATP in bacteria, in their resting state with a reduced energy balance. In heat-treated foodstuffs, the heating of ATP and the impact of enzymes breaks it down into AMP. These food residues provide the ideal breeding ground for ubiquitary microbes, whose growth leads to the contamination of further process products. Classical ATP measurements do not highlight this AMP in organic residues, thus producing imprecise measurements of cleanliness. Protein color analyses require a longer measuring time and are significantly less sensitive. The Lumimeter and belonging swab enable an exact measurement of the degree of contamination. The simultaneous measurement feature provides a reliable indicator of cleanliness, thus enabling you to satisfy all legal requirements.

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Instructions

Hygiene monitoring within 30 seconds

Samples are taken with the sterile Swab. The Swab detergent solution releases the ATP and AMP. Contact with the firefly substrate enzyme system (Luciferin-Luciferase) releases ATP and AMP in an enzymatic circulation reaction (our patented AMP-ATP circulation technology).

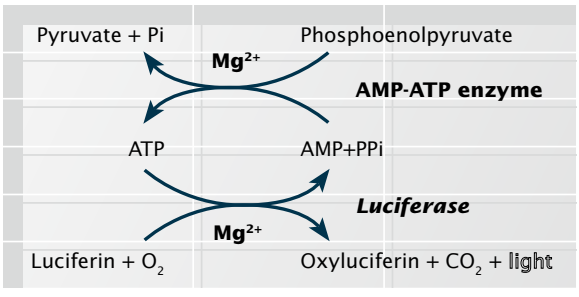
The degree of luminescence depends on the amount of ATP-AMP and is quantifiable (expressed as Relative Light Units – RLU) using the Lumimeter. The more bioluminescence is measured, the greater the degree of impurity. The whole procedure lasts less than 30 seconds.

After a waiting time of no more than 30 seconds, our innovative process shows the level of impurification resulting from organic residue (e.g. bacteria) without the need for any enhancement or incubation. This patented, genetically engineered firefly enzyme also has detergent-tolerant characteristics: the presence of any cleaning material residue does not inhibit the reaction and the measurement and results are not distorted (Patent no. EP 1 041 151 A1).

1. Moisten the swab with water (if the surface is dry) and wipe it over the object to be tested. Return the pad to its sheath and push it through.
2. Shake the swab repeatedly using vertical downwards movements so that the entire fluid flows into the reaction capsule. Leave it to react with the reagent.
3. Insert the swab head into the device and press » Start «. Cleanliness can be measured after 10 seconds. The measurement of invisible contamination is displayed as a numerical RLU value.

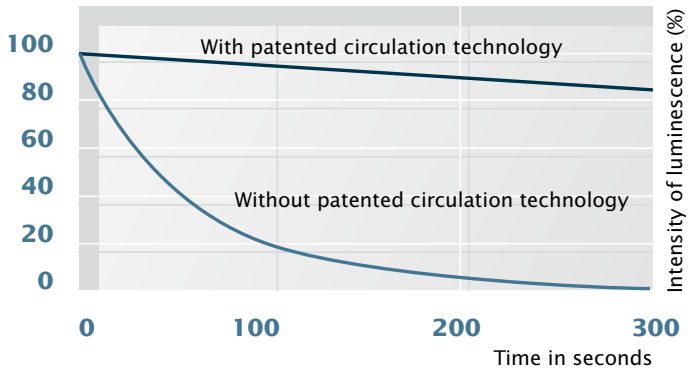
Patented AMP-ATP circulation technology

The Lumimeter enables the user to measure ATP and AMP as a part of the ATP cycle, thus providing increased reliability.



Luminescence stability

The patented circulation technology and the AMP measurement provide increased sensitivity, improved proof of any food residue and a stable light signal.



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Especially simple and quick hygiene monitoring
The advantages from the combination of the Lumimeter and swab

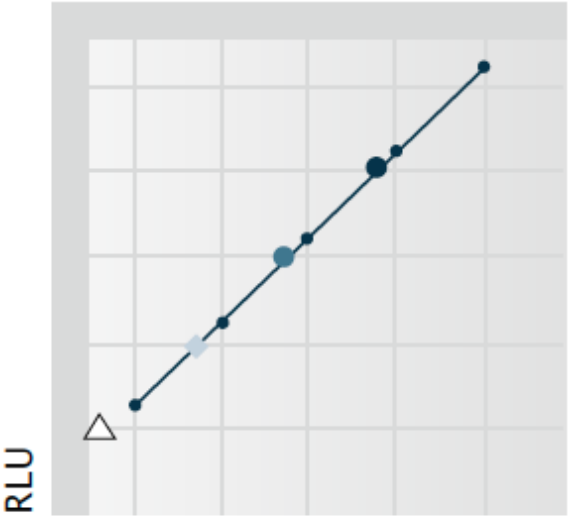
1. Extremely simple and safe operation
2. Patented simultaneous AMP and ATP measurement for increased sensitivity
3. Patented and detergent-tolerant luciferase for correct results
4. Our patented circulation technology increases the stability of the luminescence and extends the signal
5. Extremely mobile: the lightest and smallest device world-wide
6. Extremely quick and precise measurement method

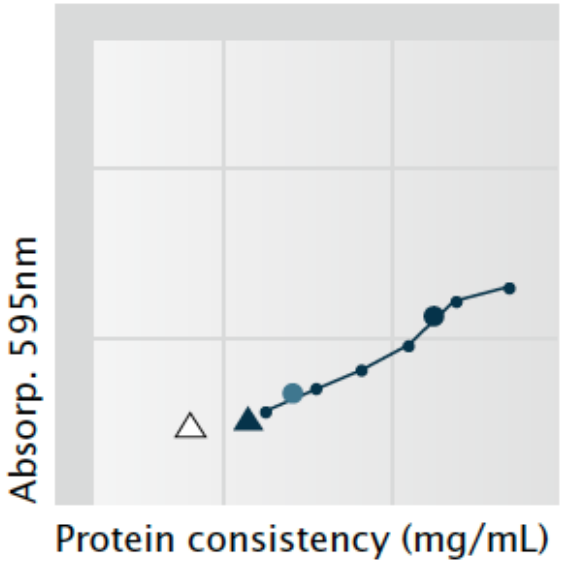
ATP-AMP verification vs. Protein analysis

An analysis using ATP and AMP is much more sensitive than protein coloration analysis. ATP – AMP measurement is characterized by exceptional linearity across the entire measurement area.

What the measurement value tells you about the degree of hygiene
Determine the threshold values valid for the cleaned surface. For flat, smooth surfaces such as glass or metal, a threshold value of 200 RLU is usually sufficient. The threshold value for uneven surfaces should usually not exceed 500 RLU.

Always conduct measurements after cleaning and before disinfection and sterilization. Only this produces meaningful readings. Remedial measures are to be determined in accordance with the results obtained. Unhygienic, non-sterile areas should be re-cleaned and checked again.





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An overview of the Prolumino + Swab

Lumimeter

- ✓ Reliable monitoring of fluids, dry and moist surfaces
- ✓ Increased sensitivity from patented measurement system for ATP and AMP
- ✓ 2000 memory tests
- ✓ 200 modes
- ✓ Measurement in RLU – Relative Light Units
- ✓ The lightest device of its kind world-wide
- ✓ Ready for use after 8 seconds
- ✓ Auto-calibration
- ✓ The device can be returned for certified re-calibration for auditing purposes
- ✓ Data transfer via USB port on PC
- ✓ Documentation of results
- ✓ Graphical data evaluation
- ✓ Simple to operate, Excel-based software
- ✓ English-language software makes for comfortable international use
- ✓ Definable threshold values to enable individual monitoring of control points
- ✓ 2-year guarantee
- ✓ CE marked and produced in accordance with ISO 9001

AM Swab

- ✓ Sealed, fracture-proof Swabs
- ✓ Applicable for fluids, dry and damp surfaces
- ✓ Swabs can be removed individually from closeable packaging: 5 x 20 pads
- ✓ Detergent-tolerant enzymes – no inhibition through cleaning agent residue
- ✓ Swab highly stable at room temperature
- ✓ Shelf life of up to a year at temperatures of 2°C - 8°C
- ✓ Patented simultaneous measurement of AMP and ATP brings optimal sensitivity

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Product overview

Name:	ProLumino
Model:	Lumitester PD20
Part number:	1.13.08.1
Analysis threshold:	10^{-15} mol/ATP/test
Measurement result time:	10 seconds
Measurement results in:	RLU – Relative Light Units
Memory storage :	2000 tests
Display:	LCD
Data transfer:	USB cable
Energy:	2 x AA Batteries
Dimensions:	65 x 175 x 32 mm
Weight:	235 g (excl. batteries)
In the box:	2 x AA alkaline batteries, cleaning brush, tape, short instruction manual, CD-ROM with PC evaluation software, dock for the device

Name:	AM Swab (ATP & AM)
Model:	LuciPac PEN
Part number:	1.13.08.2
Product form:	Swab, ATP extraction reagent, integrated type investigation reagent including luminescence reagent
Packaging:	A kit contains 5 aluminum pouches, a pouch holds 20 swabs (a total of 100 swabs). The swabs / pouches are to be removed individually and are resealable
Storage:	At 2° - 8° C up to a year after production; at 20° C up to a month. The swabs may not be frozen

Name:	ProLumino case
Part number:	1.13.08.3
Packaging:	Optional protective cover for storage of device and accessories

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