HyServe

Lumitester™ PD-10 N + LuciPac™ W

Brings Light into Hygiene Monitoring

The PD-10 N combines extreme sensitivity, easy handling and low costs for an ultra-fast measurement of the hygiene status:

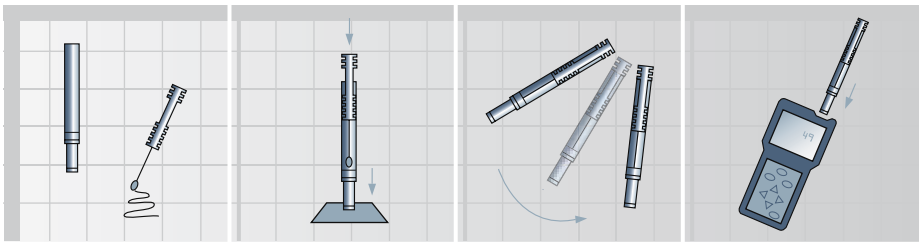
- Patented measurement of ATP/AMP increases sensitivity
- Detergent-tolerant enzymes – no inhibition from residues of cleaning agents
- Simple data transfer to Microsoft Excel
- Long durability and easy handling of the LuciPac™ W test swabs

Conventional procedures are largely bound to the reproducibility of the to-be-detected microorganisms. By contrast, procedures using the Lumitester™ PD-10 N, developed by the Japanese company Kikkoman, allows for the detection of microorganisms without the prior time-consuming quantification. In addition, the device allows for the detection of product remnants such as food residues, the latter of which tend to be an ideal culture medium for ubiquitous microbes.

	Lumitester™ PD-10 N
Detection limit	10^{-15} mol/ATP/assay
Measuring time	10 seconds
Data output	RLU (relative light units)
Storage space	1200 results
Display	LCD
Computer transfer	RS232 C / USB
Printer	Optional
Power supply	1.5 x 2 R6, AA batteries
Size	80 x 203 x 50 (mm)
Weight	280 g (without batteries)
ID number	1 002 651

	LuciPac™ W
Components	Sterile dry swabs for fluids and surfaces; releasing reagent; luminescence reagent
Package size	100 pcs: 10 swabs/aluminum bag. 10 bags/package. Each bag is reclosable.
Durability	At 2–8°C up to one year after manufacture; at 20°C, up to one month.
ID number	1 002 666

Lumitester™ PD-10 N and LucPac™ W are manu-factured according to ISO 9001 guidelines.



Test Principle

The applied technology measures ATP and AMP bioluminescence by means of an enzyme reaction observed from nature, namely, the reaction that causes fireflies to glow. With the assistance of the substrate enzyme system (luciferin-luciferase) of the firefly, AMP and ATP can be determined from bacteria and food residues. Luciferin is converted into AMP, oxyluciferin and carbon dioxide by the enzyme luciferase together with ATP consumption. This patented, genetically engineered enzyme can also determine the detergent tolerance. In this way, possible residues from cleaning agents do not lead to an inhibition or to a falsely low result.

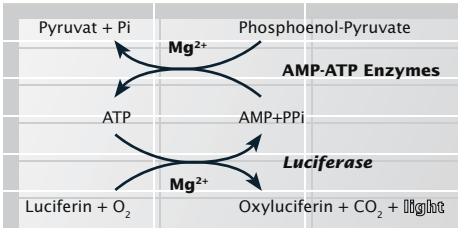
The light released in this reaction has a direct relation to the amount of ATP-AMP and can be quantified with the high-quality Luminometer PD-10 N. The presence of ATP/AMP and its concentration indicates the degree of contamination by organic components.

The PD-10 N together with the Kikkoman reagent system (LuciPac™W Swabs) allow for an "in process control" in real time, providing the required hygiene information within 10 seconds. This opens the possibility of implementing the HACCP system anywhere. The extremely fast result delivery of the Luminometer PD-10 N allows the user to initiate corrective measures early on.

A contamination is measured as follows:

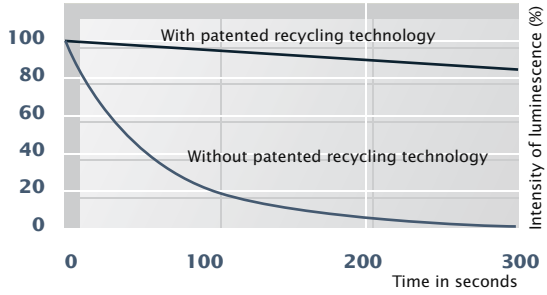
1. Wipe the to-be-tested surface with the sterile LuciPac™W cotton swab.
2. Put the swab back in the tube and push the swab stick until it has opened the reagent capsule. To do so, place the tube unit on the table or hold it by hand.
3. Shake the LuciPac™W several times so that all the liquid flows into the reagent capsule.
4. Insert the LuciPac™W into the measuring chamber of the Lumitester™PD-10 N and close the lid. Press "Enter". After 10 seconds, the result will be displayed.

Patented AMP-ATP recycling technology



Stability of luminescence

The patented recycling technology and the measurement of AMP allows for a higher sensitivity, better proof of possible food residues as well as a stable light signal.



References (extracts)

K. Venkateswaran et al., Journal of Microbiological Methods 52 (2003) 363-377: ATP as a biomarker of viable microoganism in clean room facilities

D. Hansen et al.: Krankenhaushygiene Universitätsklinikum Essen, Germany; Medical Science 2004, 2: ATP Bestimmung als Methode zur Qualitätskontrolle der Endoskopaufbereitung

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