System Comparison:

Kikkoman™ Lumitester™ PD-20

VS

Hygiena™ SystemSURE Plus

Introduction

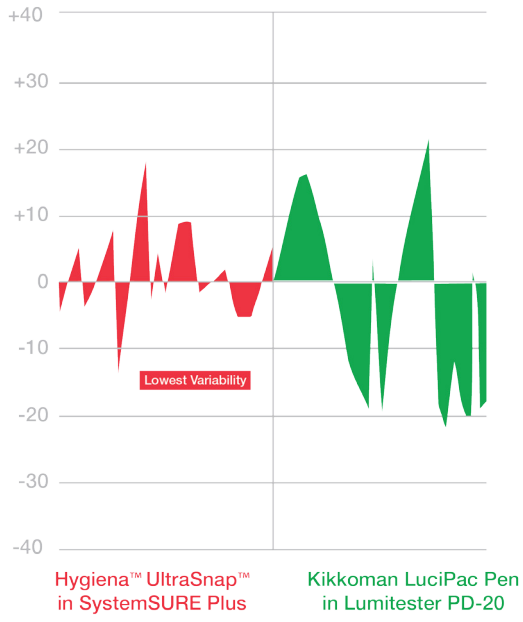
This document compares Hygiena's SystemSURE Plus Monitoring System with the Kikkoman Lumitester PD-20 system. Data in this document is from third-party studies, internal evaluations and published marketing materials.

Comparative Study

The critical components and performance metrics evaluated for each system were: test device design, overall system performance, cost, repeatability, accuracy, sensitivity and device chemistry. Not only did Hygiena outperform Kikkoman in all evaluations, results showed that the Hygiena UltraSnap™ Surface ATP Tests are more sensitive to ATP and better at detecting low levels of contamination than the Kikkoman LuciPac Pen surface ATP tests.

Repeatability:

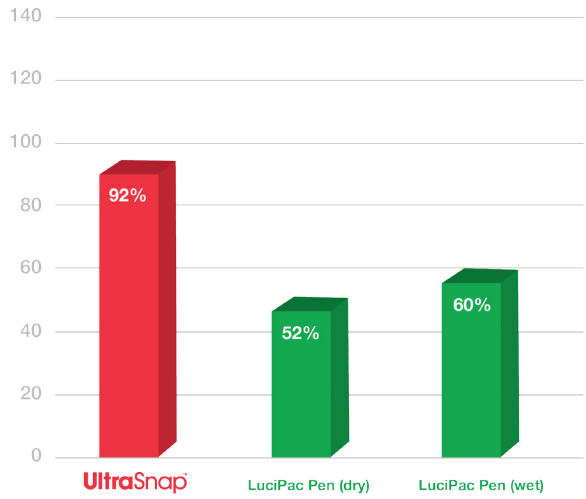
Variability in results with the same sample



Lower variability means results with the same sample are more consistent from test to test.

Accuracy:

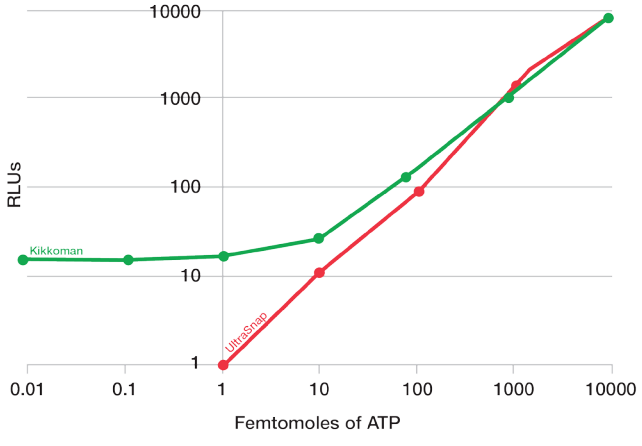
Recovery and detection of all available ATP to reflect the true value of the sample



The closer to 100% accuracy, the more representative the reading is to the true sample. Less than 100% accuracy means only a fraction of the sample is detected due to interference within the system, which could result in false negative readings.

Sensitivity:

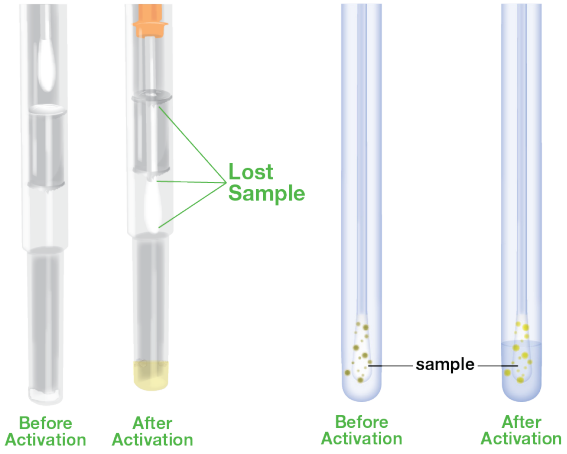
Smallest amount of sample that can be detected above the background of the system (Limit of Detection – LoD)



Since ATP and RLU are directly correlated, RLU readings should be linear to femtomoles of ATP. Since Kikkoman has a limit of detection of 10 femtomoles of ATP and has a background signal of 15 RLU, the readings are not linear and are not as sensitive as UltraSnap, which has a background of 0 RLU and detects down to 1 femtomole of ATP.

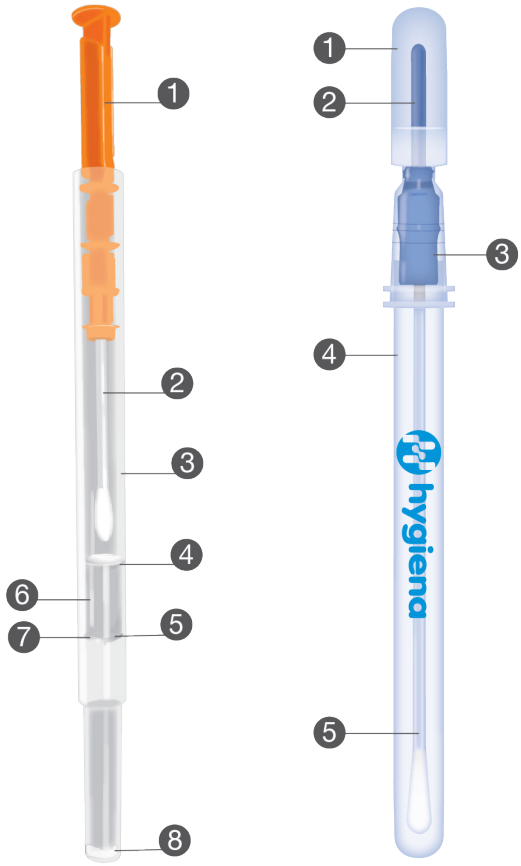
Test Device Design

Kikkoman LuciPac Pen test devices contain three foil seals that must be punctured by the swab before the sample reaches the chemicals in the tube. The chemicals are then released into the bottom chamber of the test device to mix with the freeze-dried reagent. When the swab punctures the seals, some sample is left behind on the foil due to friction, and less sample makes it to the reagent. This causes inaccurate reading, as the system detects less ATP than was present on the surface, resulting in false negatives. UltraSnap Surface ATP Tests are designed so that 100% of sample collected is measured, leading to superior sample recovery and more accurate, repeatable results.



Keeping Costs Low

Hygiena's manufacturing expertise and patented Snap-Valve™ design keeps costs low. These illustrations show the number of components in each device. Hygiena's test devices are made of five components, in comparison to Kikkoman's eight components. Fewer elements in the devices mean less room for error caused by manufacturing variance, and lower raw material costs.



All Components Combined

Hygiena's advanced sensor technology, device design, and liquid-stable chemistry offer greater sensitivity than the Kikkoman system, enabling you to detect much lower levels of ATP. For additional sensitivity down to .01 femtomole of ATP, use the EnSURE™ Monitoring System with SuperSnap™ High-Sensitivity Surface ATP tests.

Trade-Up Program

Hygiena's Trade-Up Program allows you to trade in a Kikkoman Lumitester for a brand new Hygiena luminometer. Our instruments are multi-platform, allowing you to collect, analyze, and report data from multiple quality indicators. Hygiena's Trade-Up Program can help you save up to 50% on testing costs and thousands of dollars per year. Visit www.hygiena.com to learn more about Trade-Up!

Catalog No.	Description	Quantity
SS3	SystemSURE Plus ATP Monitoring System with SureTrend Data Analysis Software	1
ENSURE	EnSURE™ Monitoring System with SureTrend Data Analysis Software	1
US2020	UltraSnap™ Surface ATP Tests	100
SUS3000	SuperSnap™ High-Sensitivity Surface ATP Tests	100