ATP Side by Side Evaluation Kit

For Comparing ATP Monitoring Systems

Part No: SBS-CH1616, SBS-SBC1575, SBS-SPXL1333, SBS-US2020, SBS-SUS3000

Description/ Intended Use:

Adenosine triphosphate (ATP) hygiene monitoring systems detect levels of ATP from both microbial and non-microbial contamination. The amount of ATP collected and measured in systems is expressed in terms of relative light units (RLU). Variation in results between systems can be caused by the enzyme reagent formulation used to produce the bioluminescent reaction, the extractant pre-moistened on the swab bud, the electronic calibration within the luminometer, and/or the variation in the sample being collected. Understanding the correlation of ATP levels to RLU is important when comparing systems. Simple surface sampling comparisons can be highly variable due to sampling technique, surface type, sample type, and possible extreme variations in residue present in different areas on the same surface.

This Side by Side Evaluation Kit eliminates sampling error and provides a consistent and scientifically-based method for comparing systems by pipetting a known amount of ATP directly onto the tips of testing devices. This instruction sheet describes the procedure for comparing two ATP monitoring systems. A monitoring system is defined as any combination of luminometer and compatible ATP test device.

Provided Materials:

- 25 Hygiena ATP test devices
- 3 vials ATP dilutions (2 nM, 20 nM, and 200 nM)
- (1) 10µL pipette
- 50 pipette tips
- 1 pair sterile gloves
- 1 data record sheet (see reverse)
- Download the Microsoft Excel spreadsheet "ATP Side by Side Evaluation Worksheet" from www.hygiena.com/instructions

Required Materials (not provided in kit):

- Luminometer(s) for comparison
- (25) ATP test devices comparison

Instructions:

Instructional Video: www.youtube.com/HygienaTV

ATP Standards

1. Allow ATP vials and ATP test devices to equilibrate to room temperature (10 minutes at 21 – 25 °C) before use.
2. Using aseptic technique, carefully remove caps from vials.
3. Turn on luminometer(s).
4. Remove 10µL pipette from bag. Leave pipette tips in bag or place them were they will not be contaminated. Place one pipette tip on the end of the pipette. Be careful not to touch the tip of the pipette tip as this could contaminate the ATP standards.
5. Pipette 10µL of 2 nM ATP standard directly onto the tip of one ATP test device from the first set of 25.
6. Activate and measure in instrument according to instructions.
7. Record result on data record sheet or input directly into Excel worksheet.
8. Repeat steps 5 – 7 four more times to give a total of 5 replicates. Use a new pipette tip for each aliquot sample tested.
9. Repeat steps 5 – 8 with 20 nM ATP.
10. Repeat steps 5 – 8 with 200 nM ATP.
11. Repeat steps 5 – 10 with other monitoring system.

Background

1. Background is determined by testing blank swabs (i.e., without any added sample). Without opening the device, activate and measure 10 test devices for each monitoring system.
2. Record results for each.

Interpretation of Results:

The Microsoft Excel "ATP Side by Side Evaluation Worksheet" downloadable from www.hygiena.com/instructions performs all calculations automatically. When comparing results, consider background, repeatability, linearity, sensitivity, and Pass/Fail correlation.

Background

- In the absence of sample, instrument should not detect light. Background results should be close to zero with little variation.
- Limit of Blank is the highest measured test result likely to be observed in the absence of sample (in femtomoles). High Limit of Blank indicates high background in the system. A result closest to zero is desirable.

Repeatability

- A smaller Standard Deviation and lower Coefficient of Variation (CV) means less variation in results.
- Combined Variation closer to zero is desirable.

Linearity

- RLU per femtomole describes the ratio of RLU to concentration of ATP. Monitoring systems measure ATP on varying scales.
- The relationship between RLU and ATP concentration should be linear.
- Linearity closer to 1 indicates greater linearity of data.

Sensitivity

- The Absolute Limit of Detection is the lowest level of ATP (in femtomoles) detectable by the monitoring system.
- Limit of Detection describes the smallest detectable amount of ATP (in femtomoles) detectable by the system considering any background. (Limit of Detection = Limit of Blank + Absolute Limit of Detection)
- Absolute Limit of Detection and Limit of Detection values closest to zero are desirable.

Pass/Fail Correlation

- Each instrument displays results on a different scale, so while RLU results will differ between systems, categorization of results as Pass or Fail should not vary between systems. Contamination above ATP thresholds should be measured as a Fail on both systems.

Storage & Shelf Life:

- Store at refrigerated temperatures (2 – 8 °C) until ready for use. ATP standards degrade rapidly when left at room temperature for extended periods of time.
- Do not freeze.
- Check expiration date on packaging.

Disposal:

Hygiena ATP test devices are made of 100% recyclable plastic and may be discarded accordingly. Refer to other manufacturer disposal instructions.

Safety & Precautions:

Components of Hygiena ATP test devices do not pose any health risk when used in accordance with standard laboratory practice and procedures of this insert.

- Test devices are for one-time use. Do not reuse.

For further safety instruction, refer to Safety Data Sheet (SDS).

Hygiena Liability:

Hygiena will not be liable to user or others for any loss or damage whether direct or indirect, incidental or consequential from use of this device. If this product is proven to be defective, Hygiena's sole obligation will be to replace product or at its discretion, refund the purchase price. Promptly notify Hygiena within 5 days of discovery of any suspected defect and return product to Hygiena. Please contact Customer Service for a Returned Goods authorization number.

Contact Information:

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Data Record Sheet

The data record sheet below is provided for your convenience. Visit www.hygiena.com/instructions to download the Microsoft Excel spreadsheet "ATP Side by Side Evaluation Worksheet". Input the recorded data into the spreadsheet to perform calculations for system comparison as per Interpretation of Results.

ATP Standard – 2 nM		
Replicates	Monitoring System #1	Monitoring System #2
1		
2		
3		
4		
5		

ATP Standard – 20 nM		
Replicates	Monitoring System #1	Monitoring System #2
1		
2		
3		
4		
5		

ATP Standard – 200 nM		
Replicates	Monitoring System #1	Monitoring System #2
1		
2		
33		
4		
5		

Background - Blank		
Replicates	Monitoring System #1	Monitoring System #2
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		