ATP Side by Side Evaluation Kit

For Comparing ATP Monitoring Systems
Part Number: ATP-SBS-US2020

Introduction

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 ATP test devices
- 3 vials ATP dilutions (2 nM, 20 nM, and 200 nM)
- 10 µL pipette
- 50 pipette tips
- 1 pair of sterile gloves
- 1 Data Record Sheet (see Page 4)
- Download: Microsoft® Excel spreadsheet “ATP Side by Side Evaluation Worksheet” from www.hygiena.com

Required Materials (not provided in kit):

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

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Test Procedure

Instructions

ATP Standards

1. Allow ATP vials and ATP test devices to equilibrate to room temperature (10 minutes at 21 to 25 °C) before use.
2. Using aseptic technique, carefully remove caps from vials.
3. Turn on luminometer(s).
4. Remove 10 µL pipette from bag. Leave pipette tips in bag or place them where 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 10 µL of 2 nM ATP standard directly onto the swab 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 (Page 4) or input directly into downloaded 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 systems.

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.

Additional Information

Interpretation of Results

The Microsoft Excel “ATP Side by Side Evaluation Worksheet” downloadable from www.hygiena.com 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 close to zero is desirable.

Reliability

- A smaller Standard Deviation and lower Coefficient of Variation (CV) means less variation in results.
- A 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, the 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 to 8 °C) until ready for use. ATP standards degrade rapidly when left at room temperature for extended periods of time.
- Do not freeze.
- Do not use past the expiration date on the label.

Disposal

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

Safety & Precautions

- Components of Scigiene's 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 instructions, refer to Safety Data Sheet (SDS).

Scigiene Liability

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

Contact Information

For more information, visit www.scigiene.com.

Data Record Sheet

The data record sheet below is provided for your convenience. Visit www.hygiena.com 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 the Interpretation of Results section.

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		
3		
4		
5		

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