

ATP Hygiene Kit HS

Measurement of ATP on surfaces or in liquids as an indicator of biological contamination



- Fast assay: Results within minutes
- Highly sensitive: 10^{-17} mol ATP (~ 5 bacteria)
- Reliable: ATP standard in liquid form
- User-friendly: Dropper bottles, no pipetting

Leader in luminescent
ATP-assays

BioThema
LUMINESCENT ASSAYS 

ATP Hygiene Kit HS

Intended use

The kit is intended for determination of ATP (adenosine triphosphate) on surfaces and in liquids. All living cells contain ATP. When cells die of natural causes, ATP is degraded.

Applications

ATP in liquids or on surfaces is an indicator of biological contamination. After cleaning and/or disinfection, remaining biological material is likely to result in microbial growth sooner or later. Application areas include quality assurance of cleaning in e. g.:

Food industry (HACCP)

Hospitals

Clean room facilities

Liquid samples that can be assayed include:

Drinking water

Rinsing water (e. g. from CIP plants)

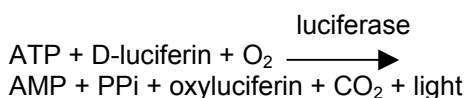
Process water (e. g. from cooling water towers)

Water from public baths.

Assay principles

Before the assay, ATP is released from the biological material using Extractant B/S, which extracts ATP from most types of cells.

ATP is assayed using ATP reagent HS with a detection limit of 10 amol (i.e. 10^{-17} moles) corresponding to 5 bacterial cells.



The intensity of the light is proportional to the amount of ATP and is measured in a luminometer. In a separate cuvette the light emission is measured before and after addition of a known amount of ATP standard. This makes it possible to calculate the amount of ATP in unknown samples expressing the result in e.g. amol.

Instruments

Any tube luminometer can be used.

Optional disposables

ATP free cuvettes (outer diameter 12 mm)

Swabs for collection of surface samples

Kit contents

The kit contains four sets of reagents, each set providing 25 assays.

1. ATP Reagent HS (4 vials). Lyophilized reagent containing luciferase and luciferin.
2. Diluent B (4 dropper bottles). Buffer used to reconstitute ATP Reagent HS.
3. Extractant B/S (4 dropper bottles).
4. ATP Standard (4 dropper bottles). Contains 10-8 mol/L ATP dissolved in Extractant B/S.

Assay procedure using internal ATP Standard

Each series of assays includes measurement of reagent blank and calibration by a known amount of ATP Standard.

Assay of liquid samples

1. Add 4 drops (or 100 μL) of sample to 4 drops (or 100 μL) of Extractant B/S.
2. Add 6 drops (or 400 μL) of ATP Reagent HS.
3. Measure the light signal.

Assay of surface samples

1. Add 4 drops of Extractant directly on the surface.
2. Swab the surface in both directions (10x10 cm) so that the entire surface comes in contact with swab and Extractant B/S. Put the swab back into its container.
3. Add 6 drops of ATP Reagent HS to a cuvette.
4. Rotate the swab in the cuvette for 30 s. Break the swab handle a few millimeters above the top of the cuvette. Measure the light signal with the swab remaining in the cuvette.

Calculations:

Calculate amount of ATP in the sample by the equation:

$$\text{ATP}_{\text{smp}} = 10^{-13} \times I_{\text{smp}} / (I_{\text{smp+std}} - I_{\text{smp}})$$

The factor 10^{-13} is the amount (moles) of ATP Standard in the well (10 μL of 1×10^{-5} mol/L).

Product characteristics

Sensitivity: 10^{-17} mol ATP

ATP consumption (decay rate of light): 6 %/min

No. of determinations: 100

Ordering info

Article No: 244-441

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