

From Detection to Decision: BugCount Fuel

Using BugCount Fuel to Support Fuel Quality Management

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confidence in every count



Our mission

Our solutions and expertise enable industries to turn microbial uncertainty into confident action, so that they can protect what matters most.

30

Years of innovation and leadership in microbial diagnostics

80+

Countries with customers relying on Luminultra's solutions

25+

Industries served across the Food, Energy and Water markets

4

Global hubs across Canada, U.S and France

Our promise

Confidence in every count.

Trusted by global industry leaders including:



CROSBY FOODS LIMITED

ATP as an Indicator of Active Microbial Biomass

Adenosine Triphosphate (ATP)

The “energy currency” of all living cells

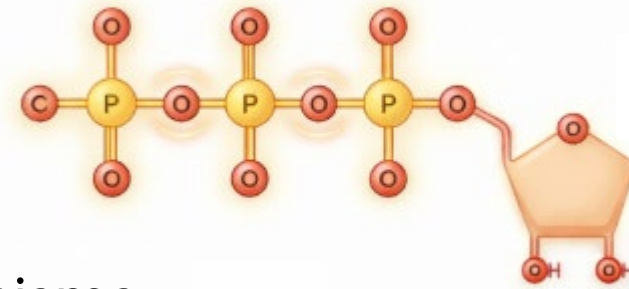
- Produced during cellular metabolism
- Found in bacteria, fungi, and other microorganisms

Why ATP is useful for monitoring

- Living microbes contain ATP

More microbes → more ATP present

- Measuring ATP provides an estimate of active microbial biomass
 - Total ATP: Cellular and extracellular ATP
 - Cellular ATP: **ATP contained within microbial cells**



ATP

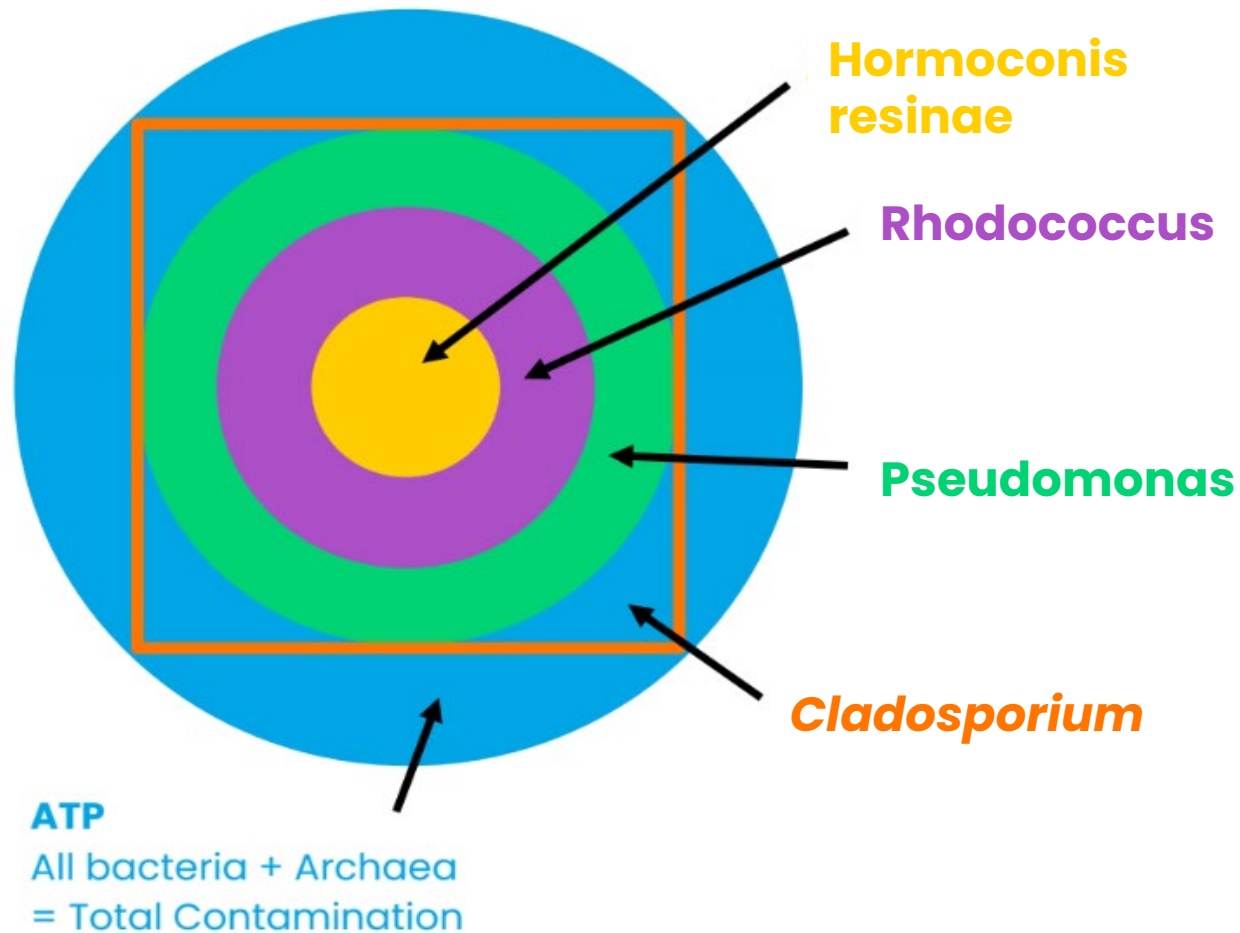


Luciferase
Enzyme



Light Produced

What Cellular ATP Actually Measures

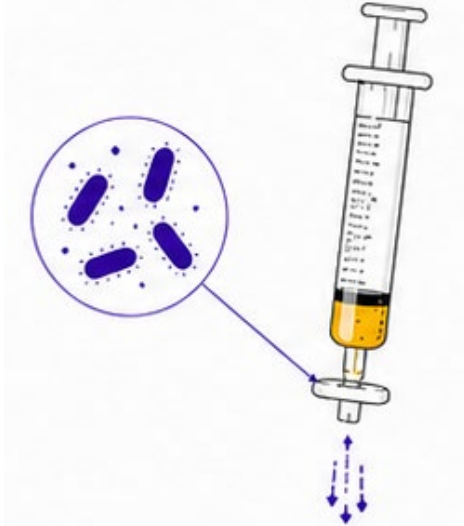


- Measuring ATP reflects **all microbial biomass**
- Captures **bacteria, fungi, and other microorganisms**
- Useful for **routine monitoring and trend tracking**
- Helps detect **microbial regrowth before operational issues occur**

How BugCount Fuel Measures Cellular ATP



1 Capture Cells



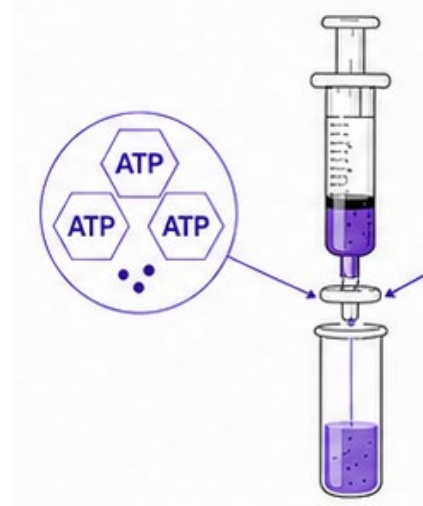
Microbial cells
captured by filtration

2 Clean & Dry



Removal of
extracellular ATP
and matrix
interferences

3 Release ATP



Cell lysis and
intracellular ATP
release

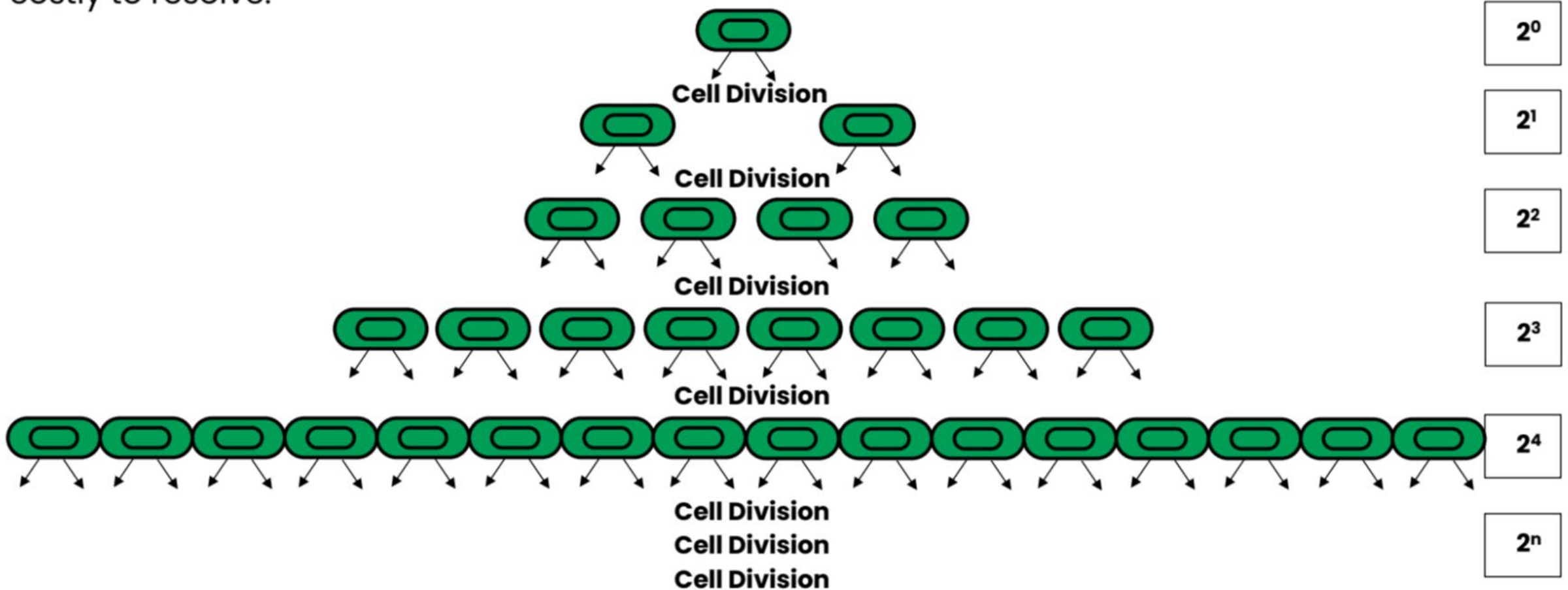
4 Measure ATP



Luciferase enzyme
reaction and ATP
quantification

The Value of Time

Microbes double quickly, so delayed detection allows problems to escalate and become more costly to resolve.



Interpreting ATP Data for Fuel System Monitoring



Stop Light Interpretation Guidelines

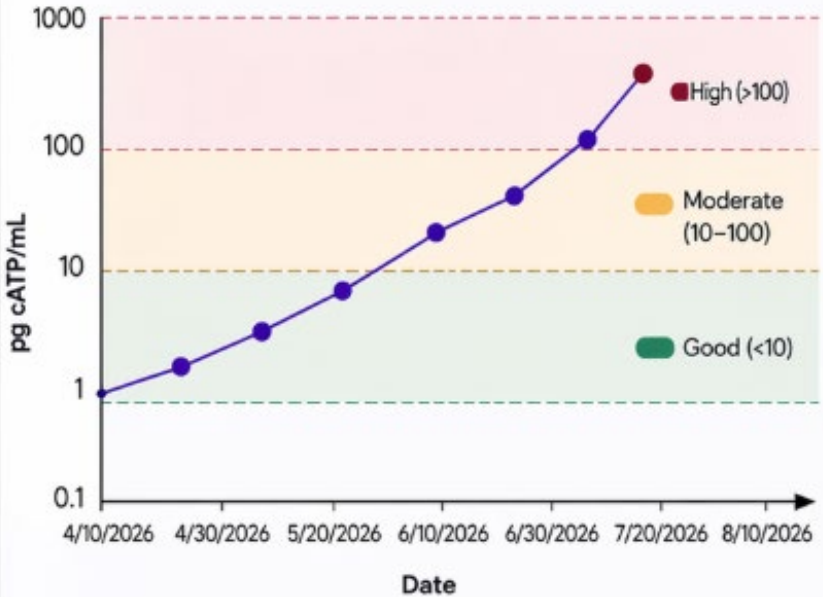
Application	Good (Negligible)	Preventative (Moderate)	Corrective (Heavy)
Fuel (Fuel Only)	<10 pg cATP/mL	10 – 100 pg cATP/mL	>100 pg cATP/mL
Fuel-associated Water	<100 pg cATP/mL	100 – 1000 pg cATP/mL	>1000 pg cATP/mL

Operational Guidance

Continue routine monitoring	Investigate & increase monitoring	Corrective treatment

Location	Sample Type	Date	Result (pg cATP/mL)
–	Fuel	4/10/2026	2.7
–	Fuel	4/30/2026	3.5
–	Fuel	5/20/2026	5.3
–	Fuel	6/10/2026	7.1
–	Fuel	6/30/2026	7.6
–	Fuel	7/20/2026	13.5
–	Fuel	7/20/2026	16.7
–	Fuel	8/10/2026	122

ATP Trending and Tracking (pg cATP/mL)



Thank you!

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