

# A New generation of hygiene monitoring

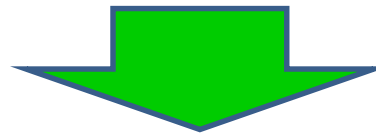
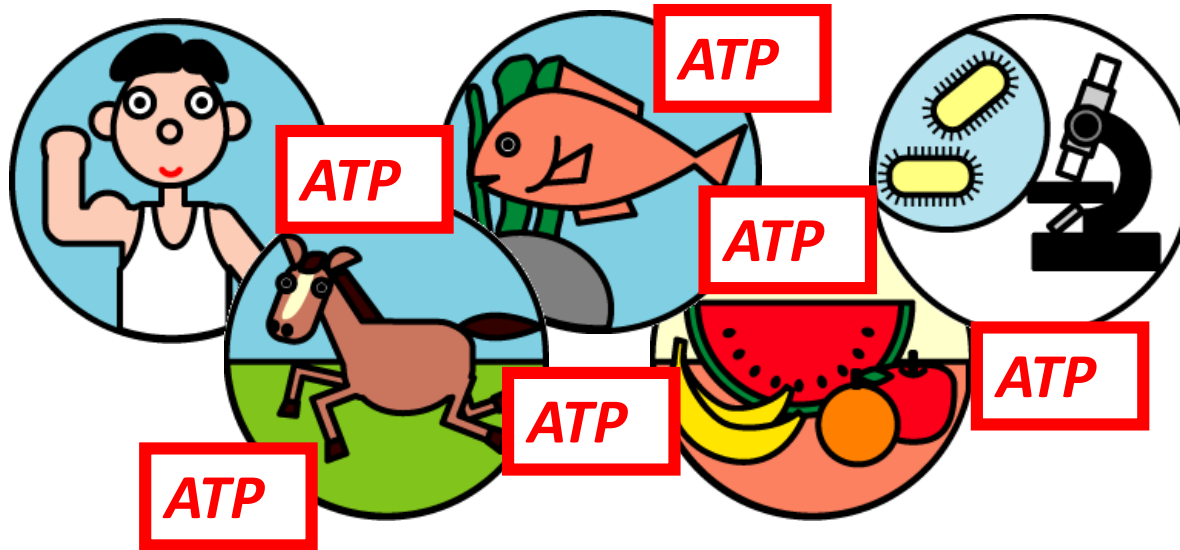
## LuciPac A3



Importør:  
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1363 HØVIK  
Tel. 22 32 77 20  
info@impex.no  
www.impex.no

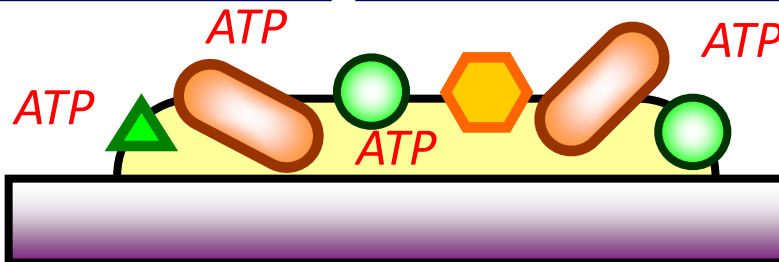
# What's ATP (Adenosine TriPhosphate)?

ATP is the universal energy molecule found in all living things.



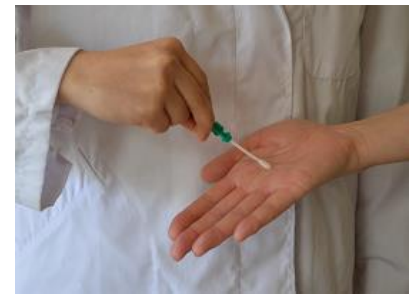
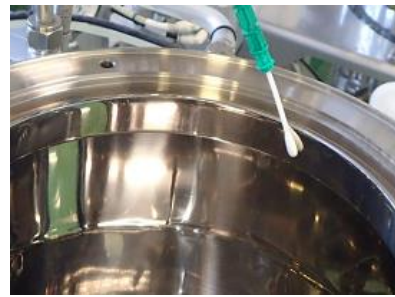
**Food Residues**

**Microorganisms**



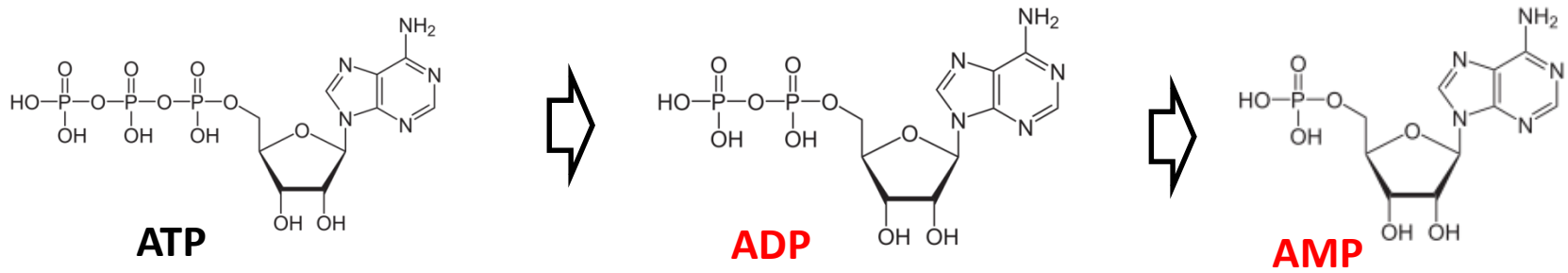
ATP is an indicator of uncleanness and cleaning efficacy.

- Invisible uncleanness can be quantified in “Anytime”, “Anywhere” and by “Anyone” in 30 sec.
  - Uncleanness record management
  - Enhancing employee’s awareness of hygiene
- Risk for both food poisoning and allergen contamination can be checked at the same time.



## ATP: Adenosine triphosphate

- ✓ ATP is a molecule found in all living cells and serves as an indicator of overall surface hygiene and cleaning efficacy
- ✓ ATP is easily converted into ADP and/or AMP by biological metabolism or by decomposition at high temperature and pH



Decomposition of ATP derivatives

## Why A3 assay (ATP+ADP+AMP)?

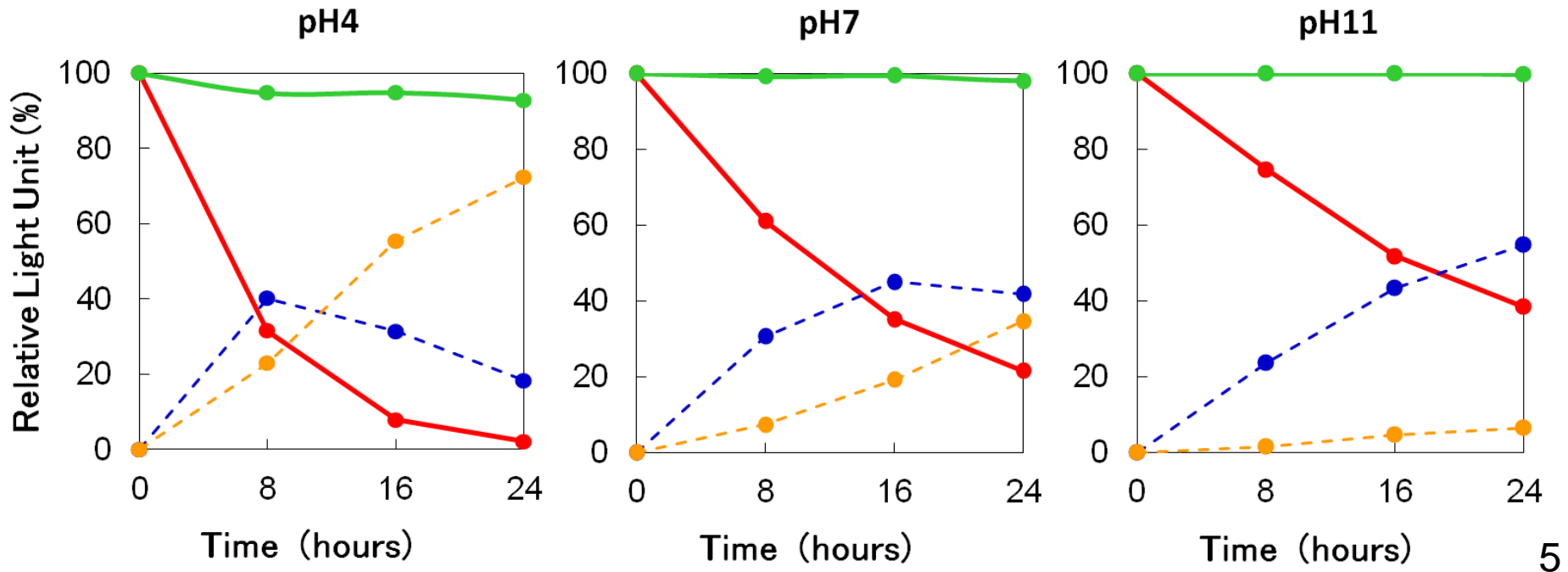
A3 detects ATP+ADP+AMP offering higher sensitivity to find microorganisms and biofilms that others miss. Just as fast and easy to use as conventional tests, but its advanced chemistry produces superior detection to uncover contaminants that you may be missing.

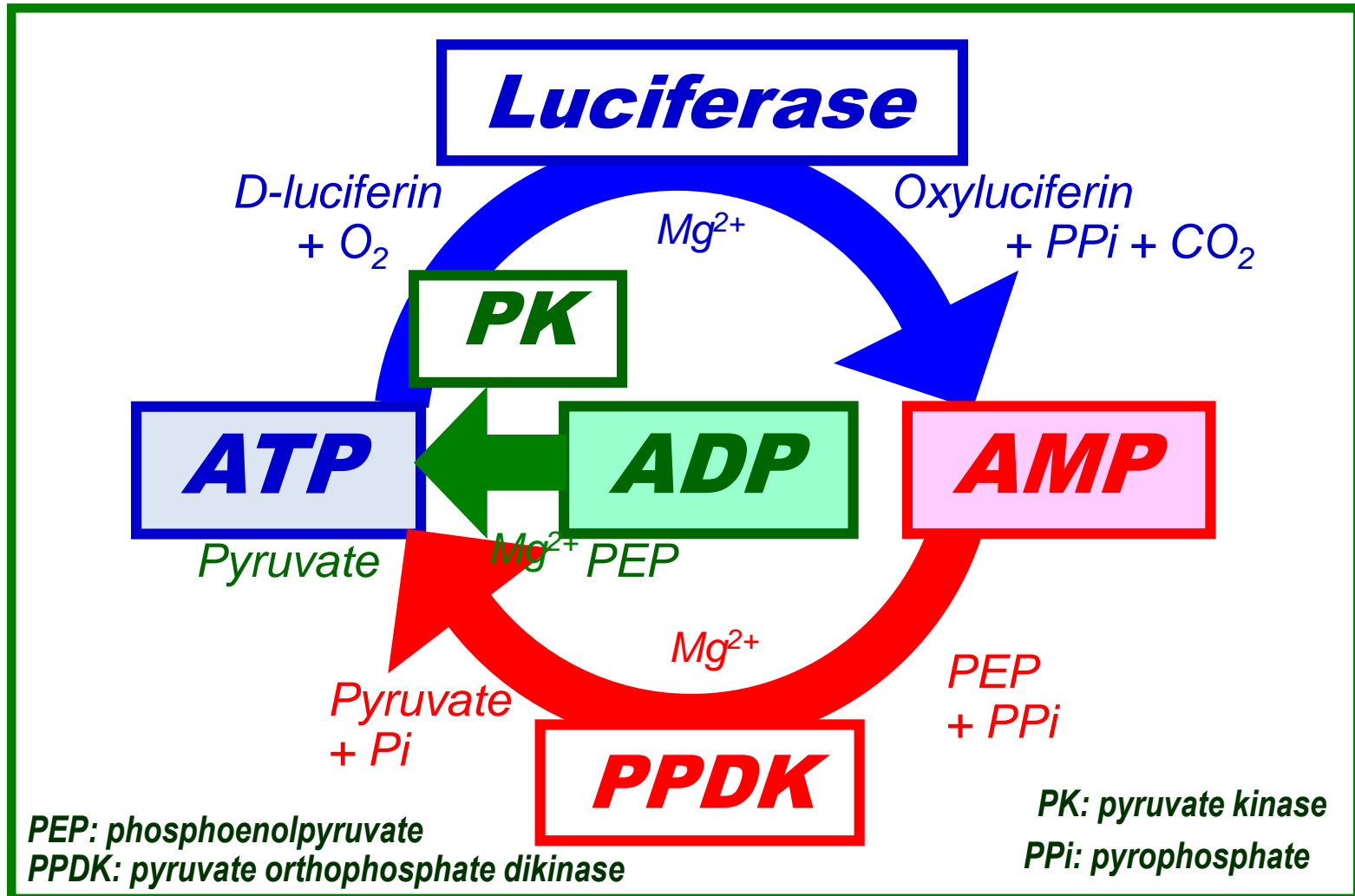
# Stability of ATP

- ✓ ATP is easily decomposed into ADP and AMP
- ✓ A3 assay provides consistent results and high sensitivity

Storage condition : 80 °C (176 °F)

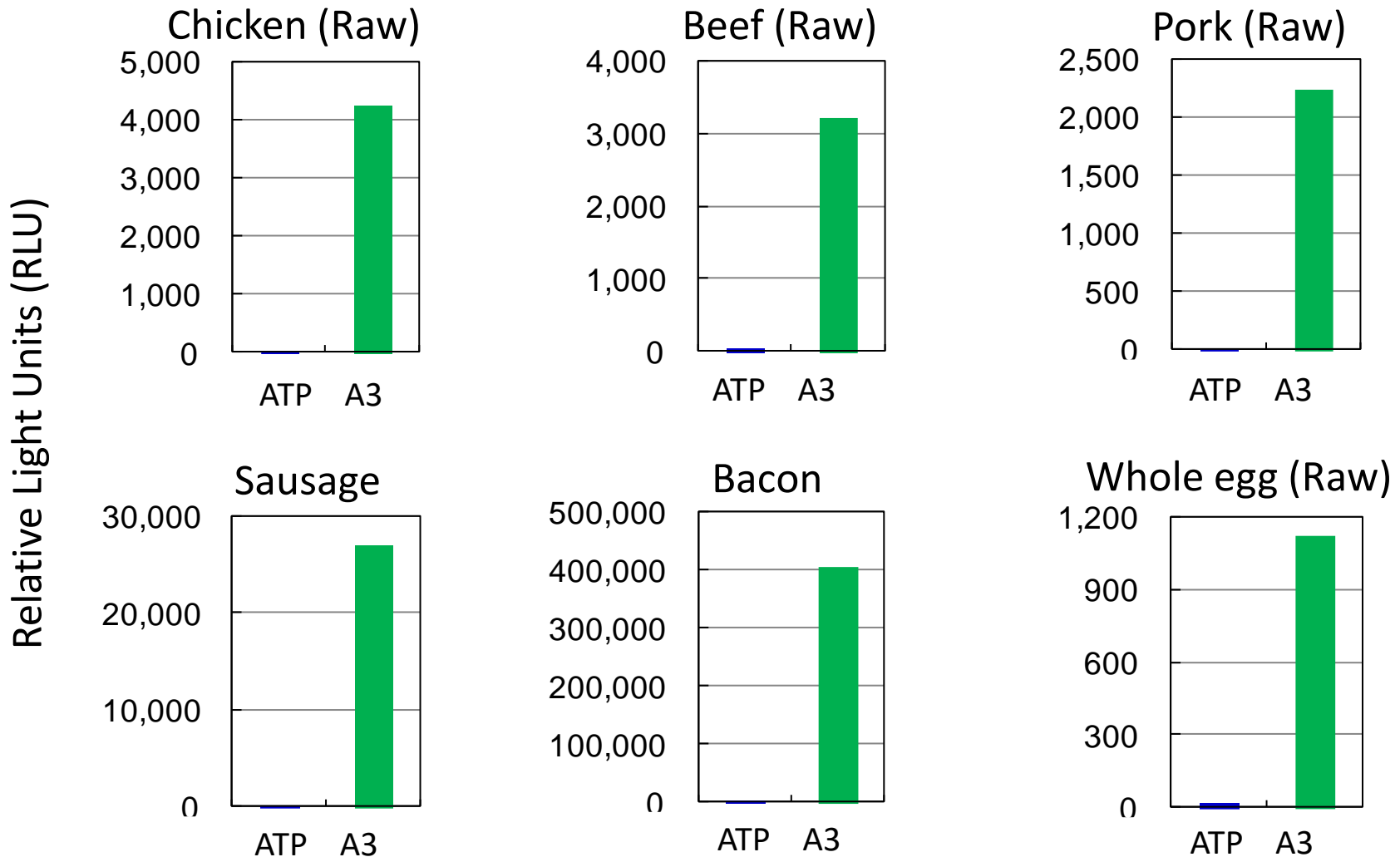
Detection : ● ATP  
● ADP  
● AMP  
● A3 assay (ATP+ADP+AMP)







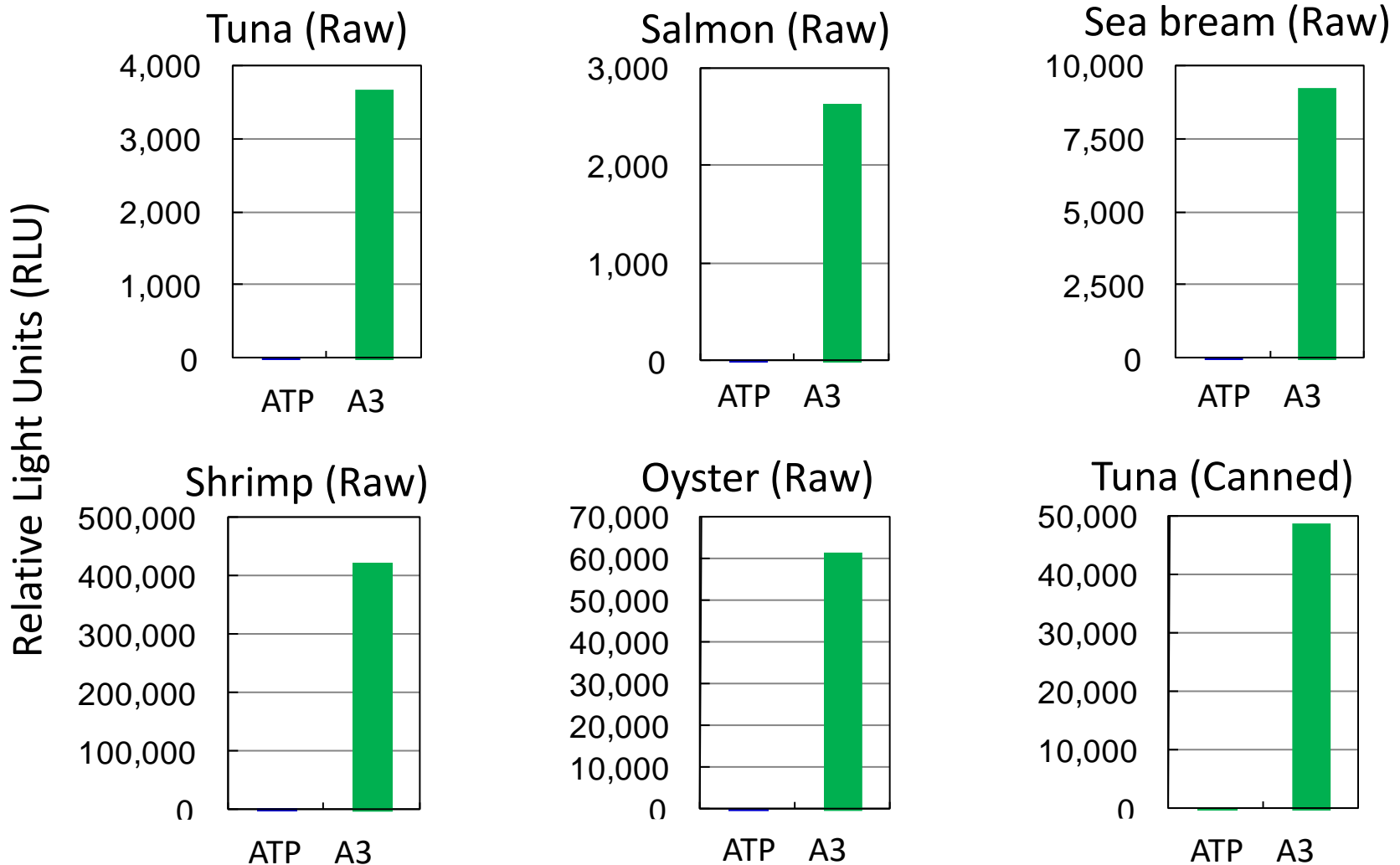
# ATP vs A3 ~Meat and Egg~



A3 is a good index of meat & egg residues



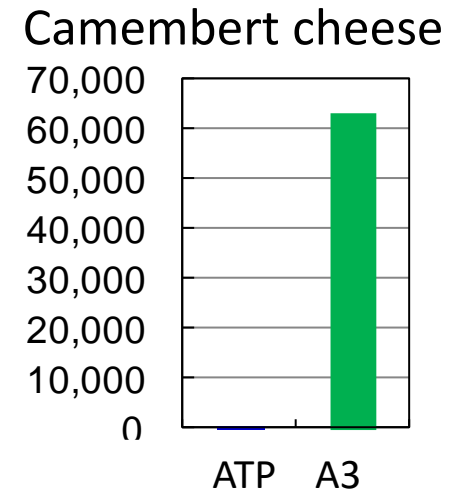
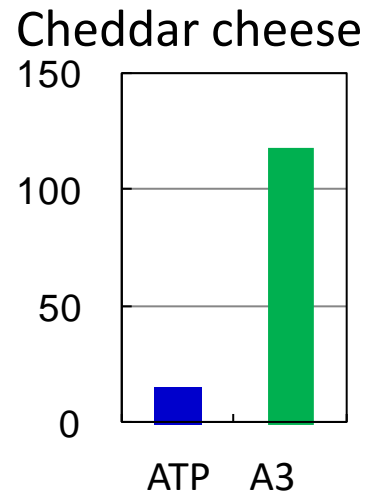
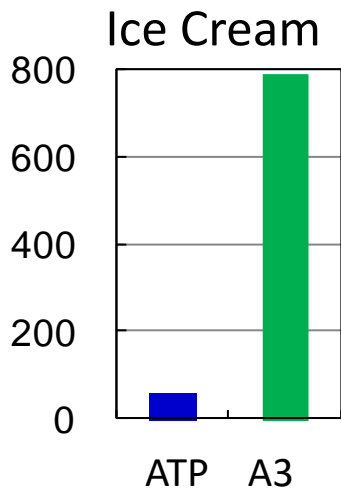
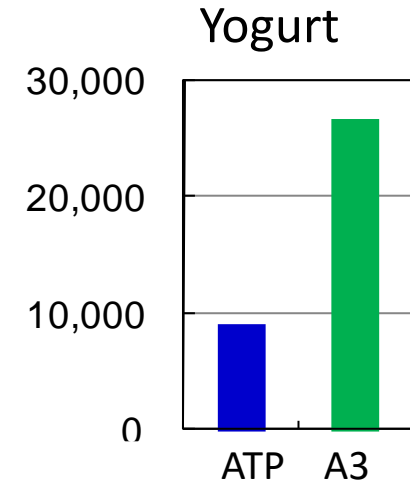
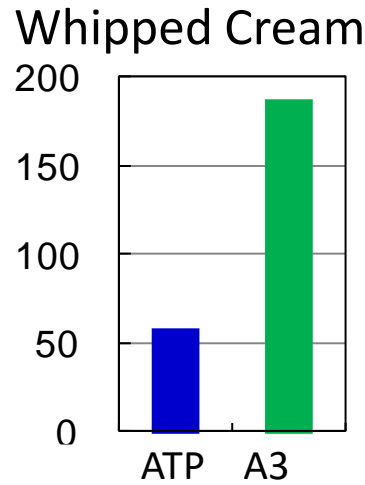
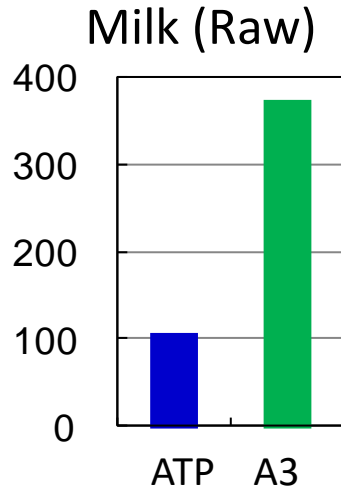
# ATP vs A3 ~Seafood~



A3 is a good index of seafood residues

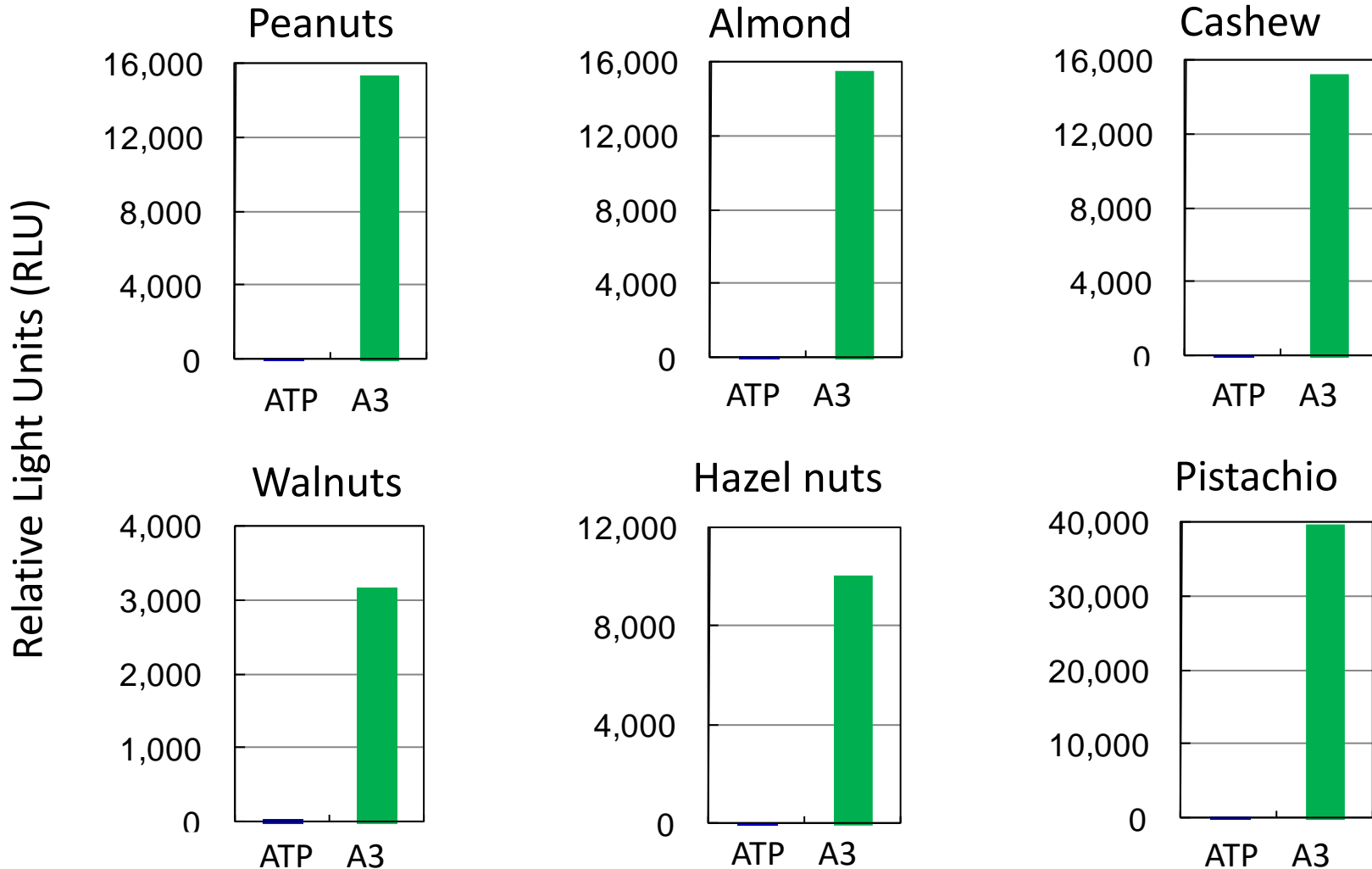
# ATP vs A3 ~Dairy~

Relative Light Units (RLU)



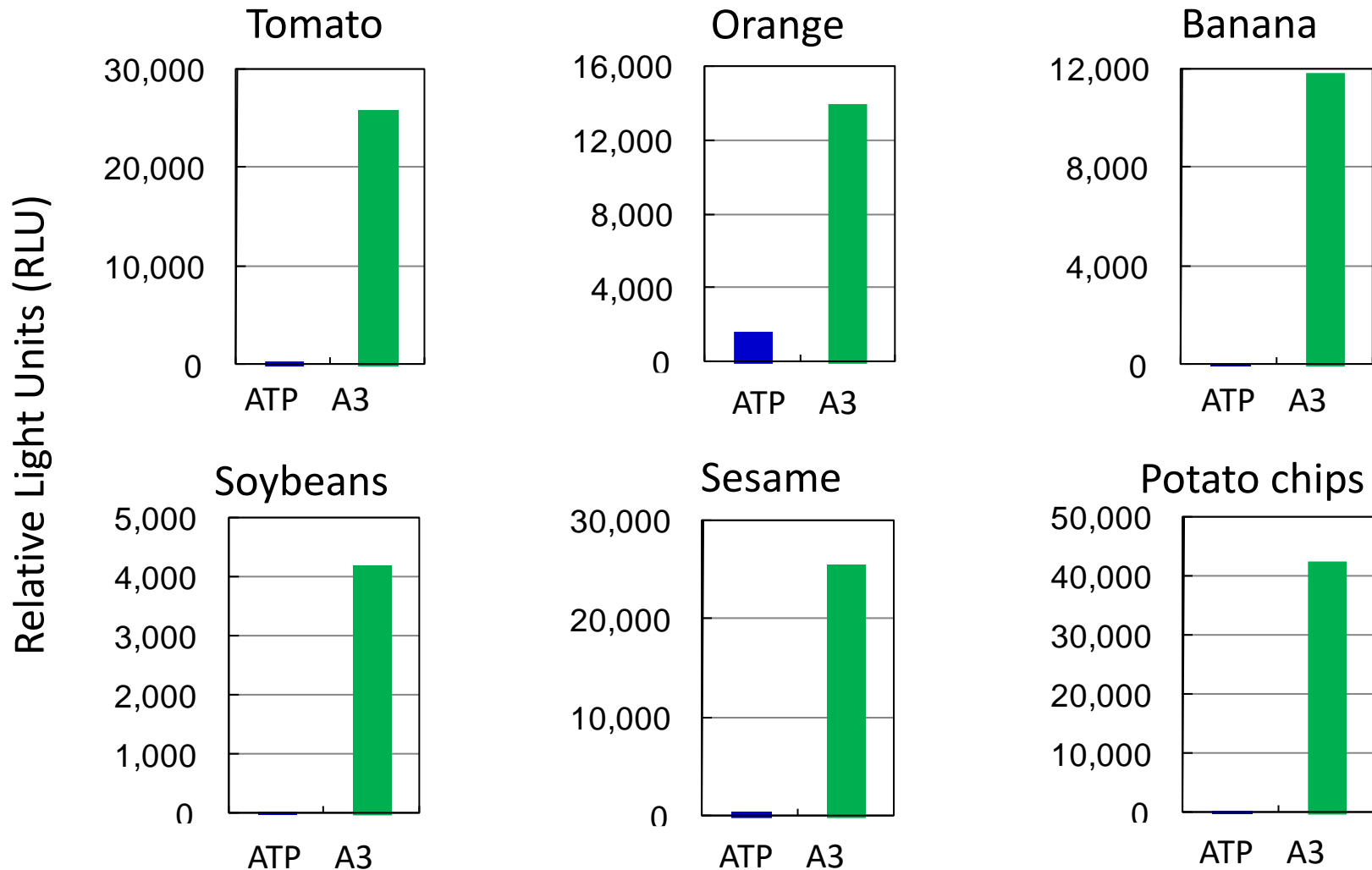
A3 is a good index of dairy residues

# ATP vs A3 ~Nuts~



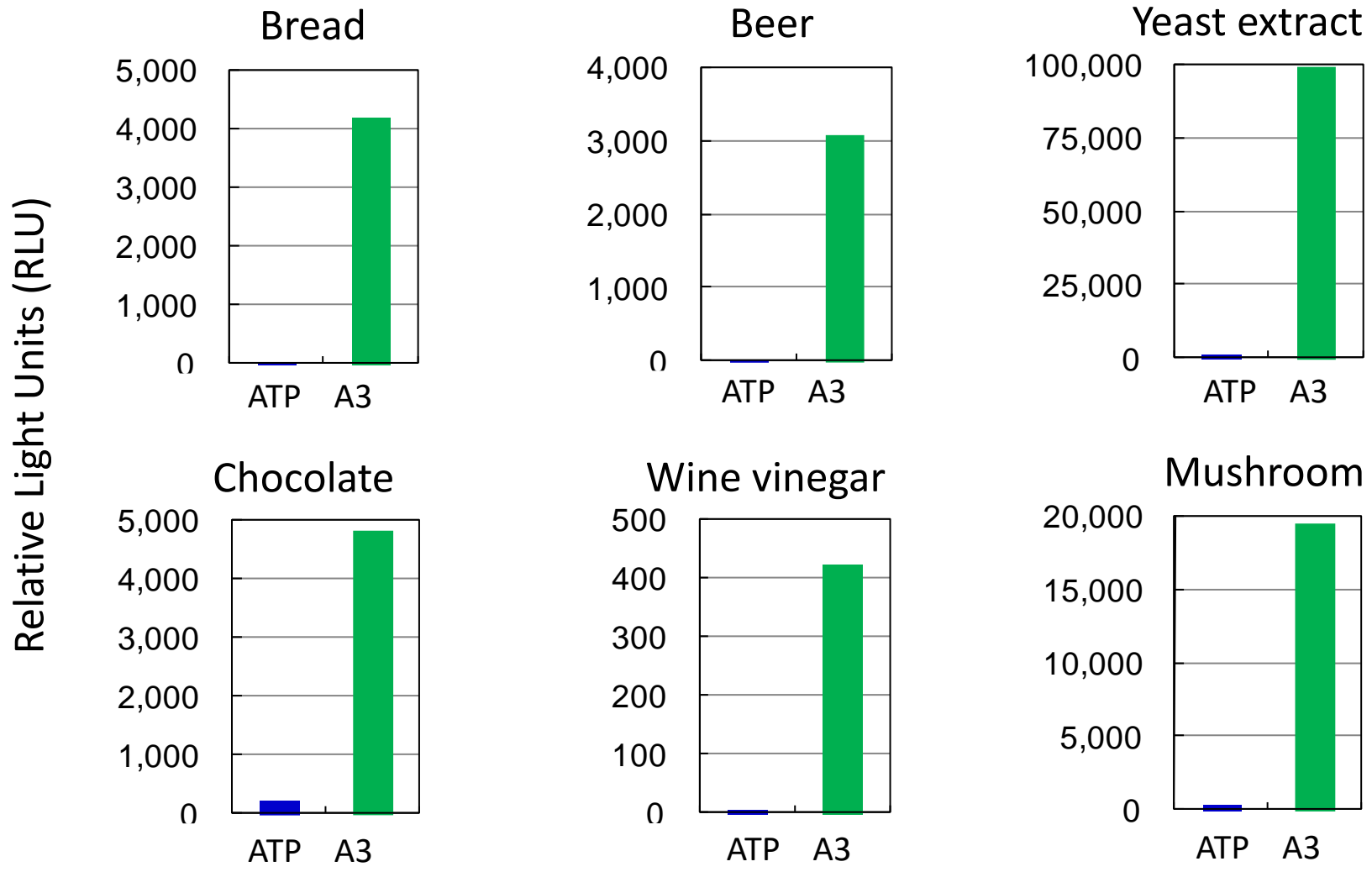
A3 is a good index of nuts residues

# ATP vs A3 ~Fruits & Vegetables~



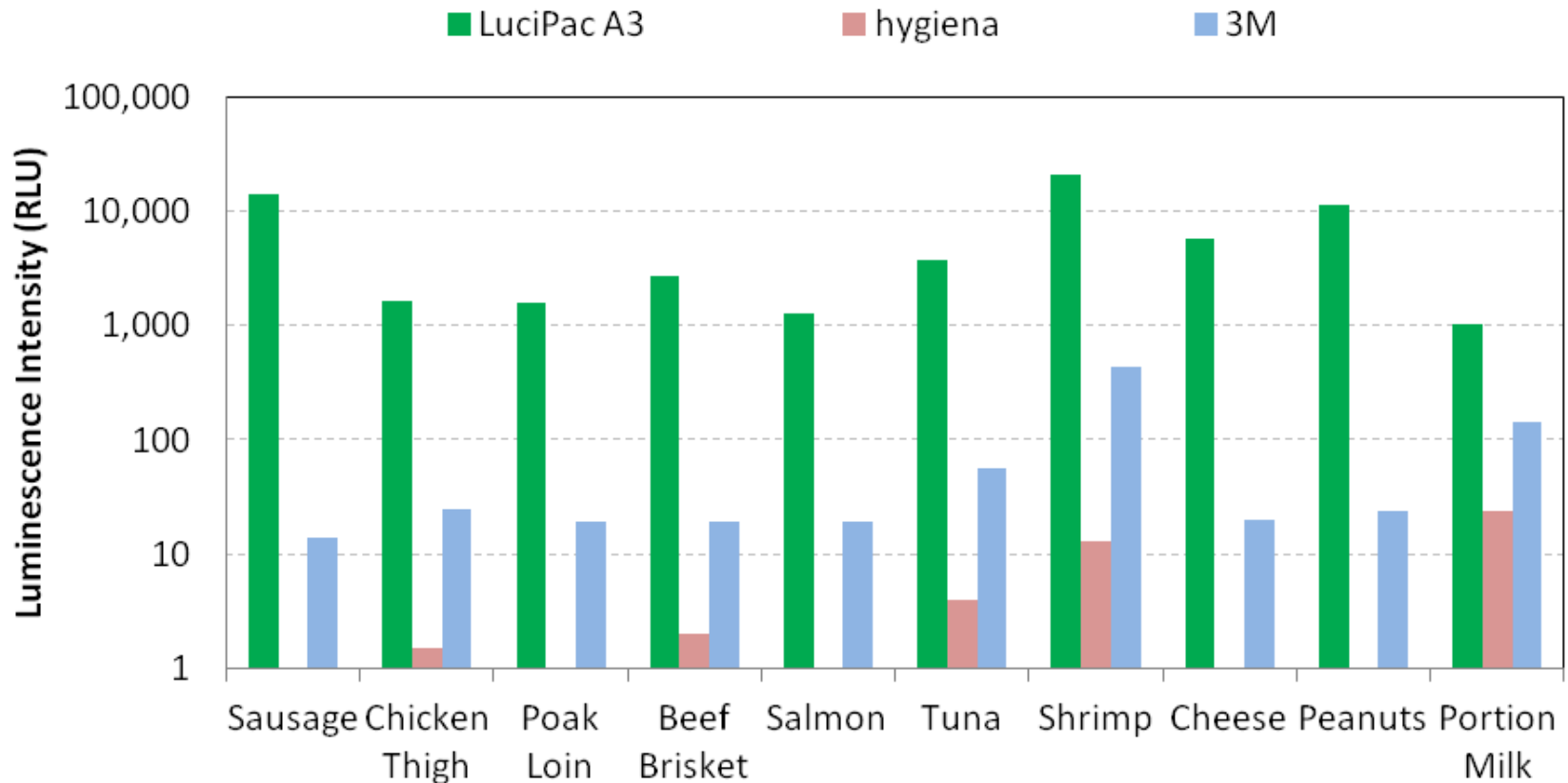
A3 is a good index of fruits & vegetables residues.

# ATP vs A3 ~Fermented foods & fungi~



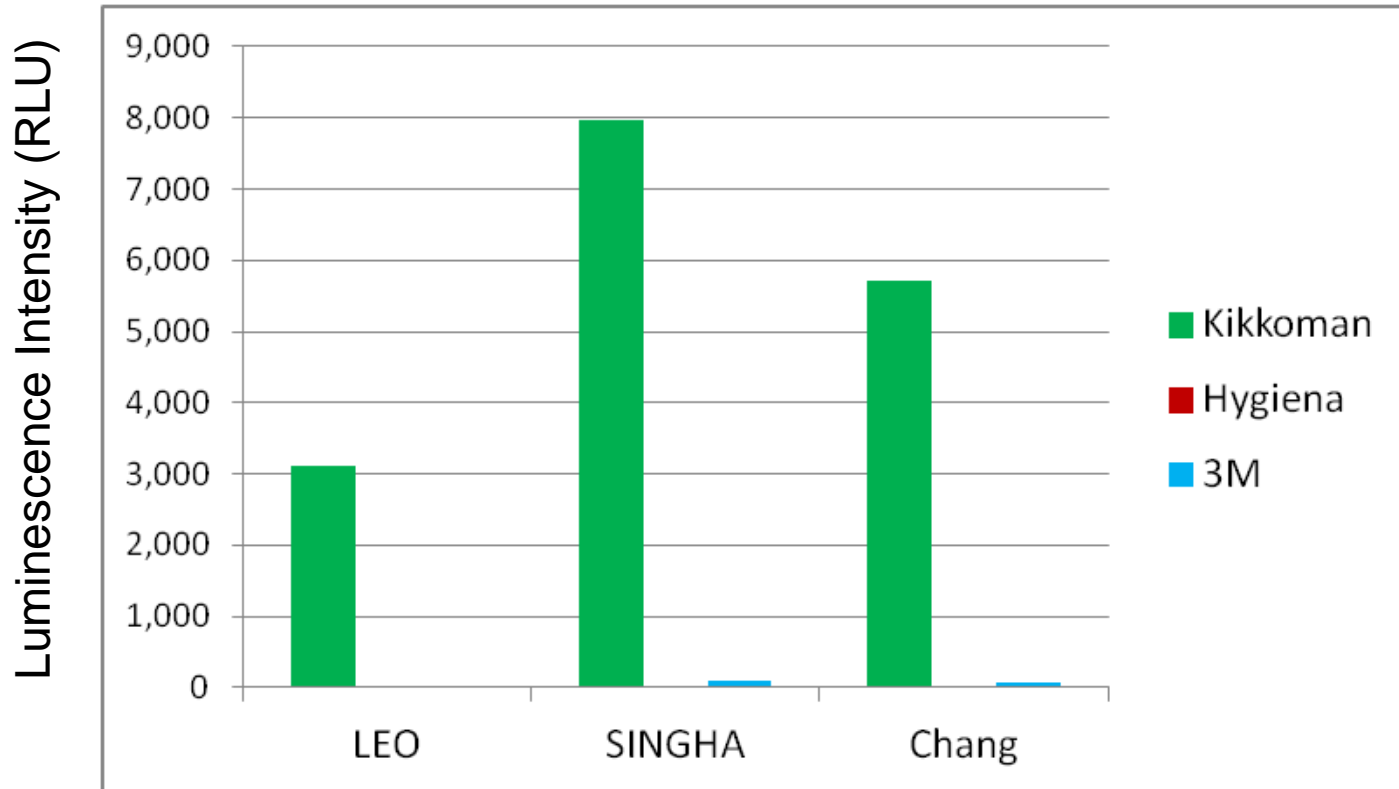
A3 is a good index of fermented foods & fungi residues.

# Kikkoman A3 vs. Hygiena vs. 3M in food



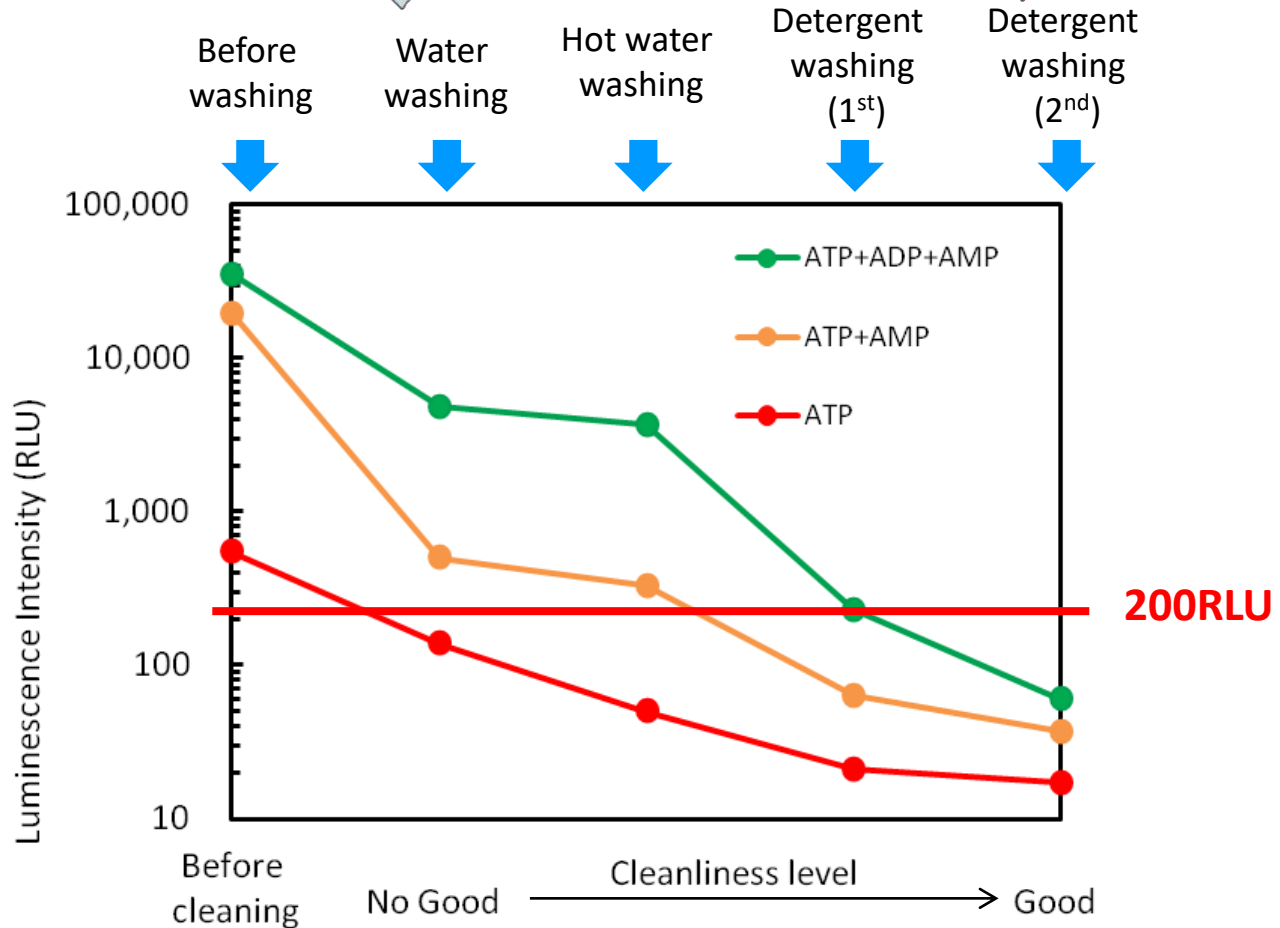
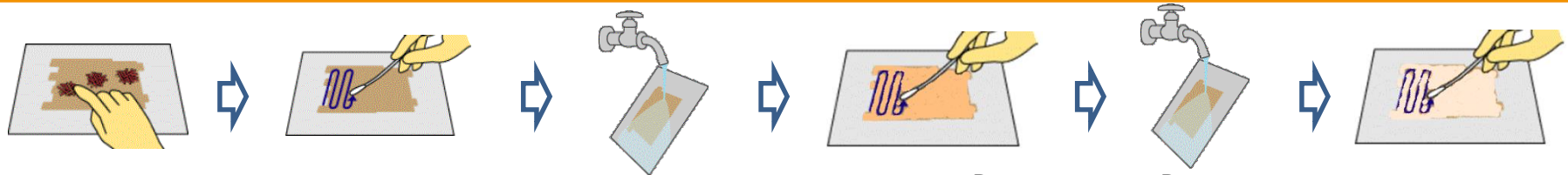
Data shows A3 has higher sensitivity on detection of food residue than either Hygiena or 3M

# A3 vs. Hygiena vs. 3M in Thai Beer



Data shows A3 has higher sensitivity to beer than either Hygiena or 3M

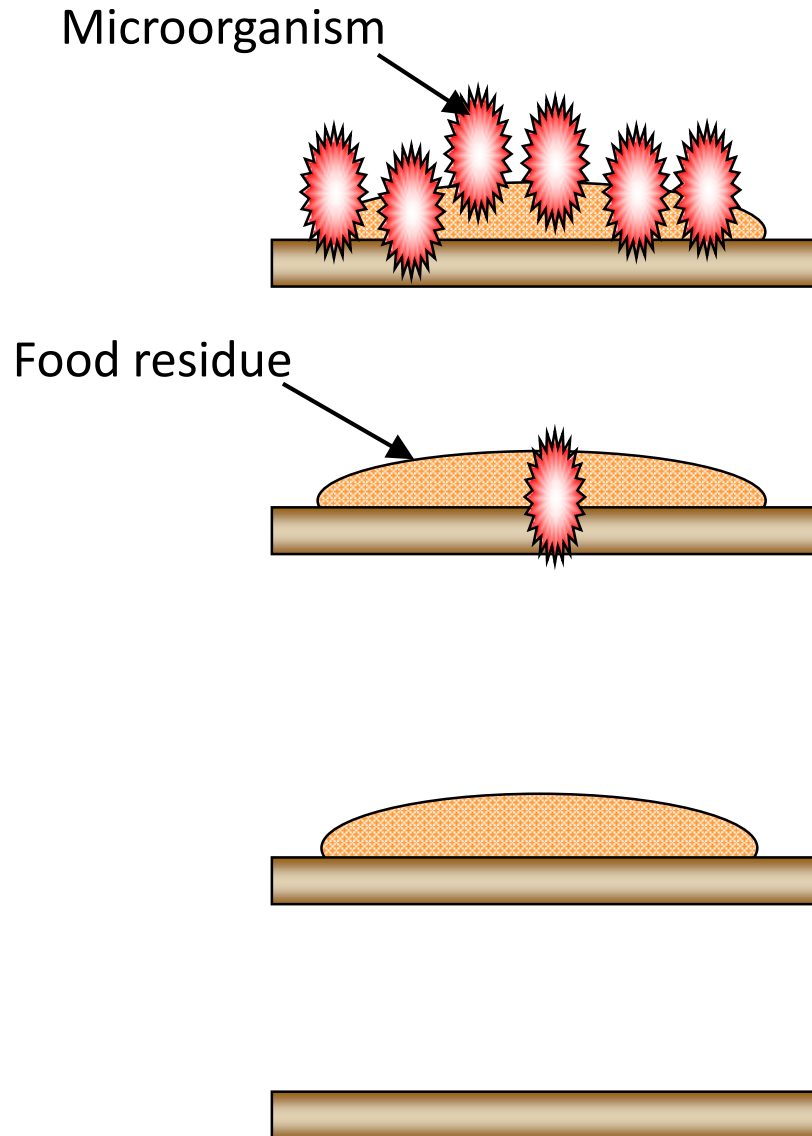
# Sanitation verification by ATP, ADP, and AMP



Detection of ATP alone is not enough for sanitation monitoring 16



# Superiority of A3



ATP

A3

Excellent

Excellent

Fair

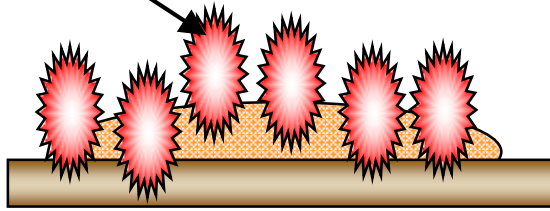
Excellent

Fair

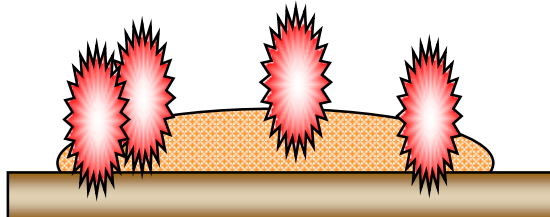
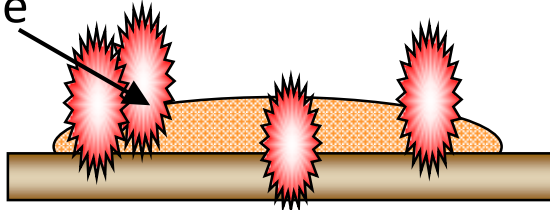
Excellent

# Superiority of A3

Microorganism



Food residue



ATP

A3

Excellent

Excellent

Fair

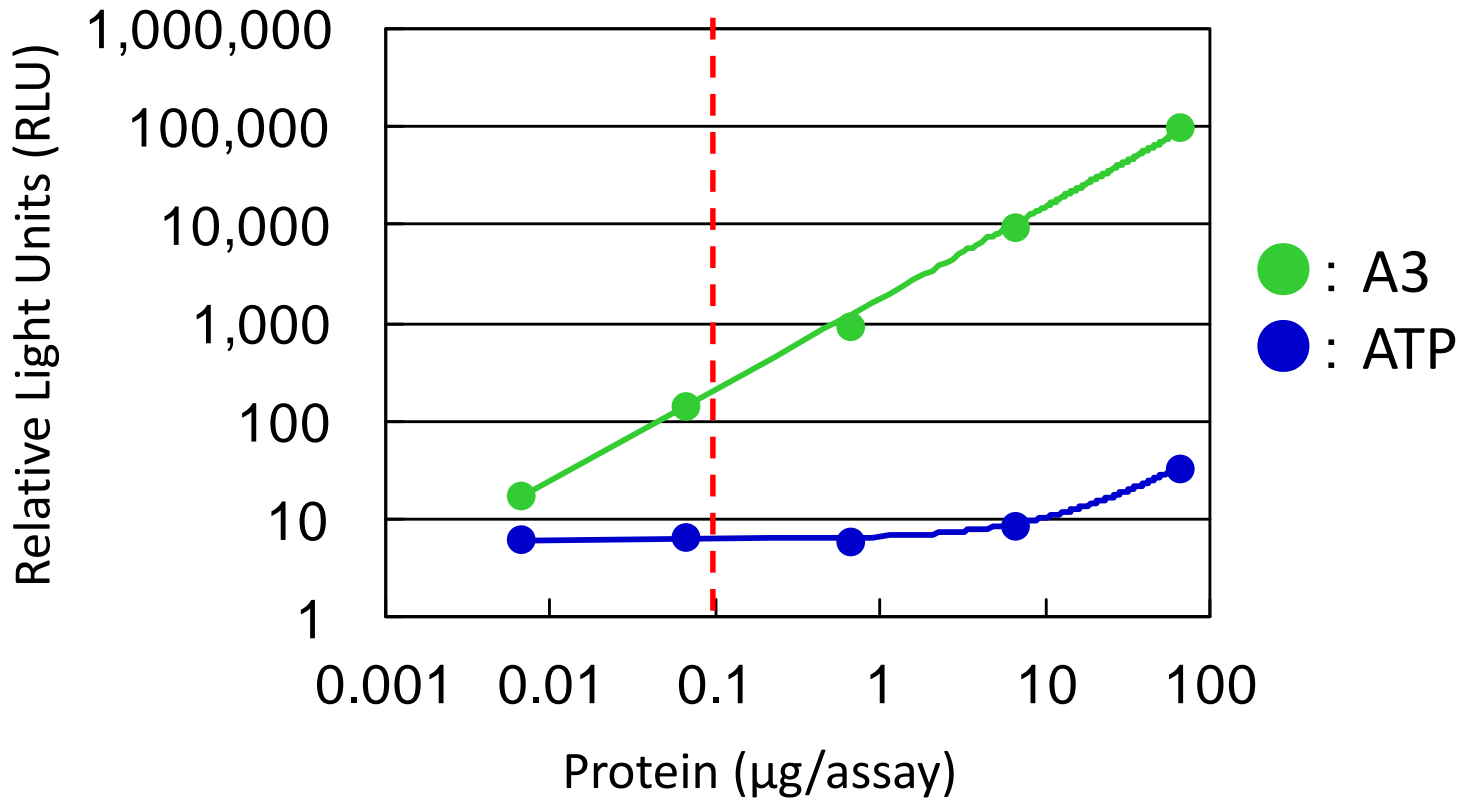
Excellent

*A3 can also detect breeding ground of bacteria*

Fair

Excellent

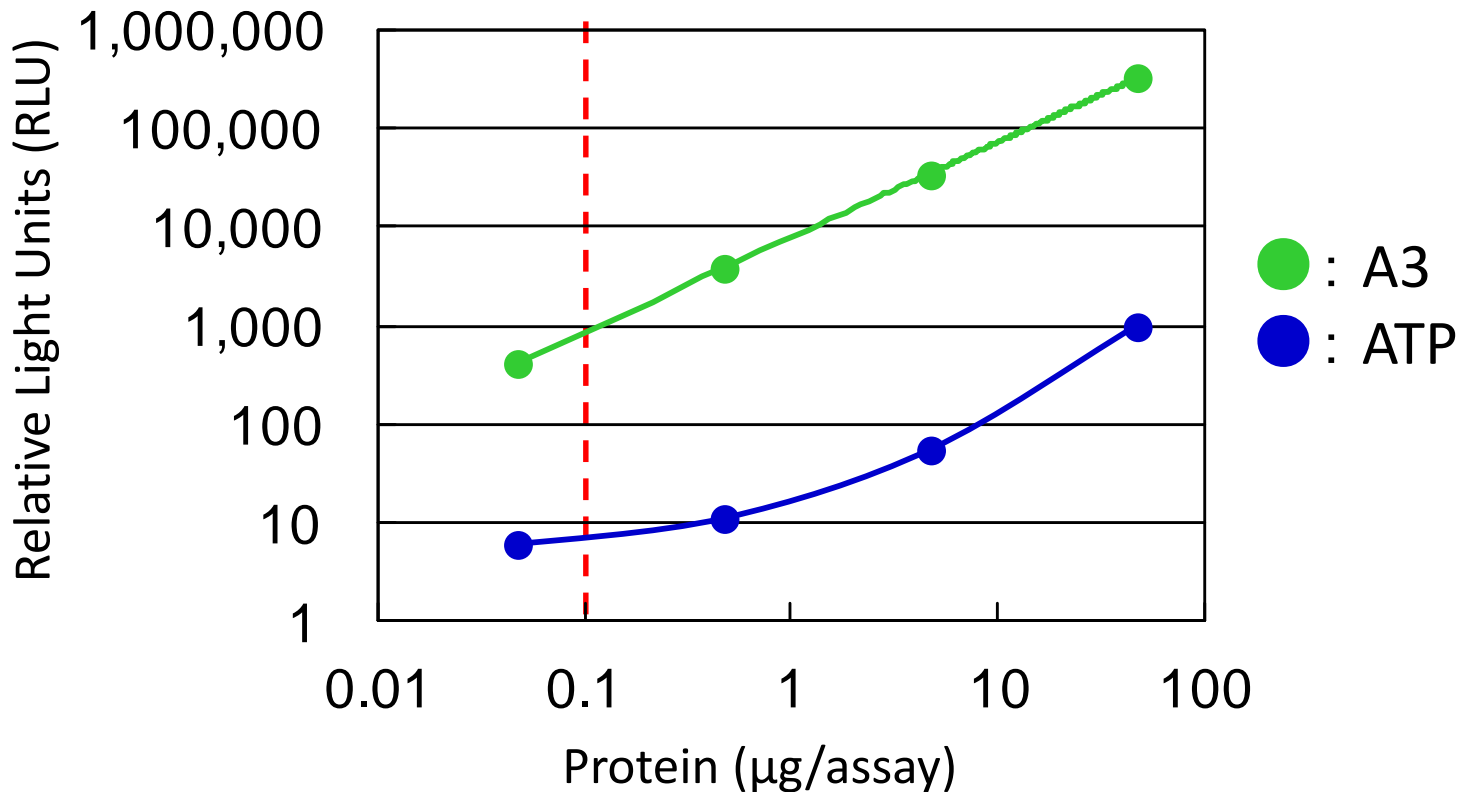
# A3 vs Protein assay ~Peanuts~



LOD of Bradford Protein assay : 0.1 µg

The sensitivity of A3 method for peanuts was equal to or better than that of protein assay.

# A3 vs Protein assay ~Shrimp~



LOD of Bradford Protein assay : 0.1 µg

The sensitivity of A3 method for shrimp was better than that of protein assay.

- ✓ Unwanted chemicals are contained in many products or on swabs, which can cause trace surface contamination, but A3 uses a dry swab that contains no trace contaminants

Kikkoman	3M	Hygiena	Neogen	Charm	BioControl
None (dry swab)	Chlorhexidinedi gluconate Humectant (SDS info)	Benzethonium Chloride (SDS info)	Does not contain any hazardous substances at the concentration limits given in Regulation(EC) No.1272.2008 and OSHA HazCom Standard 29 CFR 1910.1200 (SDS info)	No show (but pre-moisten)	Biofilm breaking agent (leaflet info)

- ✓ ATP is easily decomposed into ADP/AMP  
Assays that rely on ATP alone can produce false negatives for surface cleanliness
- ✓ A3 assay (ATP+ADP+AMP) detects more – providing high sensitivity and more accurate sanitation verification
- ✓ LuciPac A3 is sensitive enough for allergen monitoring programs, incl. nuts and eggs
- ✓ A3 does not leave trace chemical contamination

Hygiene monitoring device

ルシパック™ A3 Surface  
**LuciPac™ A3 Surface**

Code 60361


for Lumitester™ PD-20/PD-30

100 tests

20×5 bags



要冷蔵

LOT  indicated at bottom of aluminum  
 アルミ袋下端に記載



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 E-mail: [biochemifa@mail.kikkoman.co.jp](mailto:biochemifa@mail.kikkoman.co.jp)  
 URL: <http://biochemifa.kikkoman.co.jp/e>

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 TEL

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Hygiene monitoring device

ルシパック™ A3 Water  
**LuciPac™ A3 Water**

Code 60365


for Lumitester™ PD-20/PD-30

100 tests


20×5 bags



要冷蔵

 Do not freeze  
 凍結厳禁

LOT  indicated at label of aluminum bag  
 アルミ袋ラベルに記載

 mind package insert  
 取扱説明書参照



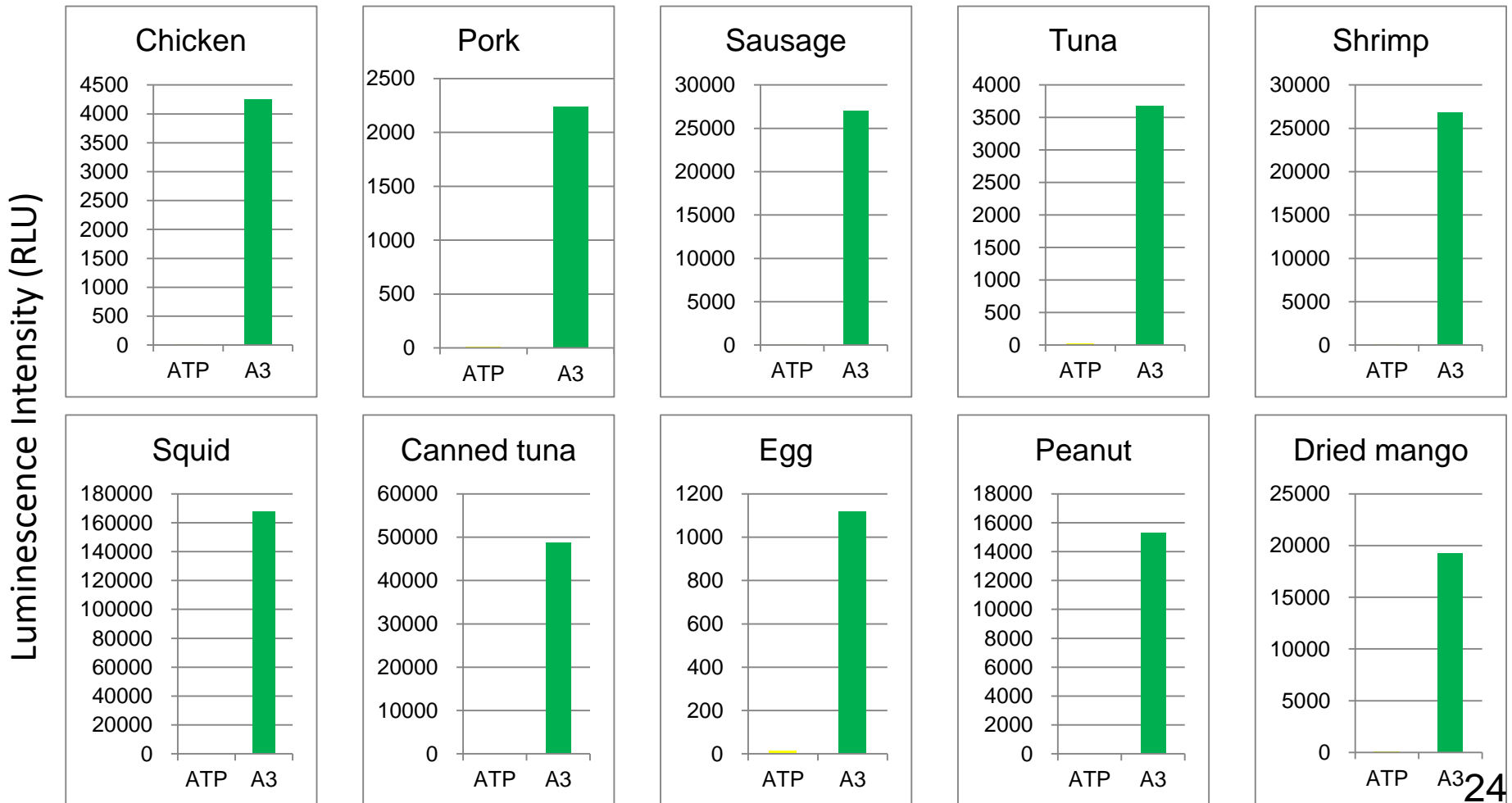
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# ATP and A3 detection in food products

- ✓ Conventional ATP tests do not detect many food products
- ✓ High Sensitivity LuciPac A3 shows a high level of detection





# ATP and A3 detection in beverages

✓ LuciPac A3 is more sensitive in beverage detection

