MicroSnap™

A new light on Pathogen Detection

PERFORMANCE TESTED AOAC RESEARCH INSTITUTE
LICENSE NUMBER 071302

MicroSnap™ is a rapid bioluminogenic test method for the detection and enumeration of Coliform and E.coli bacteria. The new MicroSnap™ platform replaces traditional microbiology testing methods with a rapid, scientific test that provides results in less than eight hours. Same-shift results allow food and beverage processors to screen materials faster, monitor the plant environment in real time and release finished products faster. The MicroSnap™ consists of an Enrichment Device containing a growth medium and a Detection Device containing a bioluminogenic (light-producing) substrate. When MicroSnap™ detects the specific microorganism, light is emitted and measured with the EnSure™ luminometer.

Features & Benefits:

- Fastest microorganism test for Coliform and E. coli available
- Allows for faster quality assurance response and product release.
- Quantitative (enumeration) results in **6 hours**
- Qualitative (presence/absence <1CFU/100mL) results in **8 hours**
- Simple pass/fail result at desired specification
- Low level detection (<10 organisms)
- No special sample preparation required
- Self-contained devices provide ease of use
- Unique liquid-stable reagent provides high sensitivity and repeatability
- Uses proven conventional diagnostic properties
- Independent of sample effects
- Simple 2 step procedure
- Snap-Valve™ technology & Built-In-Pipette provide ease of use
- Equivalent results to other cultural methods
- Repeatable testing on same enrichment sample

Applications Include:

- Surface swabbing
- Raw material and finished product testing
- Solids, liquids and filterable products

Detection Principle:

Compound x – Co-Factors + Enzyme C + ATP + Luciferase → Light

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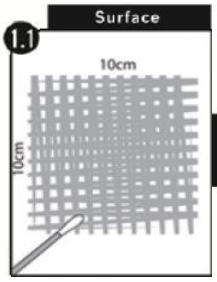
Step: 1 Enrichment

MicroSnap™

Step 1: Environmental Surface Swabs, Liquids and Solid Samples



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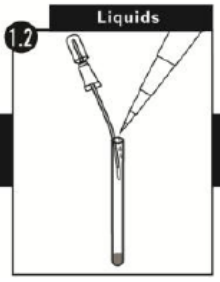

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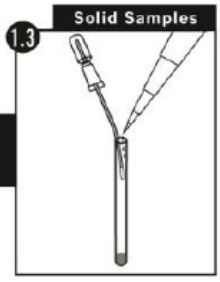
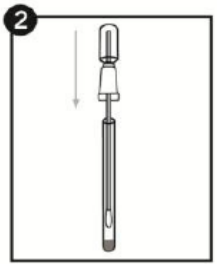


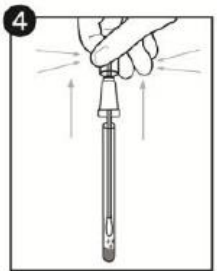


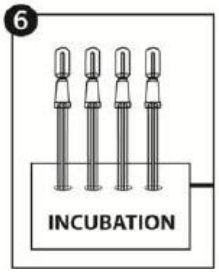
1.1 Surface: Swab a 10x10cm area or larger depending on protocol with the MicroSnap Enrichment Swab(ATP-ES100)

1.2 Liquids*: 1mL beverage or water sample added directly to MicroSnap Enrichment Swab.

1.3 Solid Samples: 1mL 10% w/v suspension of solid samples added directly to MicroSnap Enrichment Swab.

2. Reinsert Snap-Valve bulb into swab tube.





3. Activate the device. Bend bulb forward and backward to break the Snap-Valve.

4. Lift the bulb up (about 1-2") and squeeze the bulb to release the liquid into tube. Release pressure from the bulb (the bulb is like a dropper bulb) and replace bulb in the tube. Most liquid should be in the bottom of the tube.

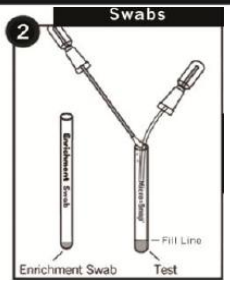
5. Shake the tube gently to mix sample in the liquid.

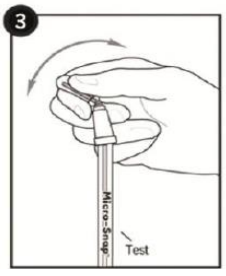
6. Incubate at 37° ±0.5°C in Dry Block Incubator for 6 hours for a quatitative measurement or 8 hours for a qualitative measurement. This is the Enriched sample. **Proceed to step 2.**

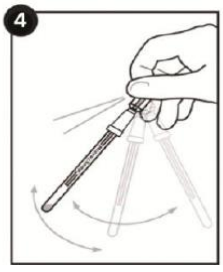
Step: 2 Detection

MicroSnap™

Step 2: Detection





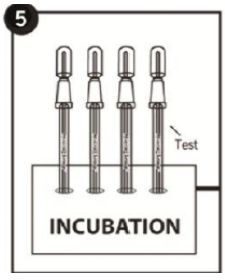


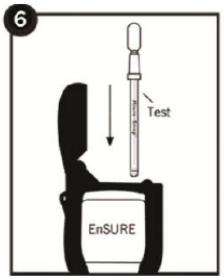
1. Shake MicroSnap Coliform test (ATP-CC100), detection tube by tapping on the palm of your hand 5 times to bring liquid to the bottom of the tube.

2: Aseptically transfer .1mL (3 drops or to full line) of Enriched sample from MicroSnap Enrichment Swab to MicroSnap Coliform Test (ATP-CC100)

3. Activate MicroSnap Coliform Test by bending the bulb forward and backward, breaking the Snap-Valve.

4. Shake the tube gently to mix sample in the liquid.





5. Incubate MicroSnap Coliform Test for 10±0.2 minutes at 37° ±0.5°C in Dry Block Incubator

6. Insert MicroSnap Coliform Test in the EnSURE luminometer (ATP-206)and initiate the measurement. Record the results as RLUs and refer to Table 1 to interpret results.

7. If a positive result is obtained for Coliform, the presence of E.coli can be verified using the MicroSnap E.coli Test (ATP-EC100). Repeat the Step 2 procedure using another aliquot sample from the same Enriched sample and the MicroSnap E.coli test.

TABLE 1: RELATIONSHIP BETWEEN ESTIMATED CFU AND MICROSNAP COLIFORM/E.COLI RLU

Estimated CFU	Equivalent RLU for 10 minutes assay on	
	SystemSURE Plus	EnSURE
<10	2	2
<20	3	4
<50	6	7
<100	8	12
<200	12	20
<500	25	35
<1000	50	60
<5000	85	180
<10,000	150	300

*** For Enrichment and Detection measurement using Large Volume Filterable Liquids, ask us for more information.**

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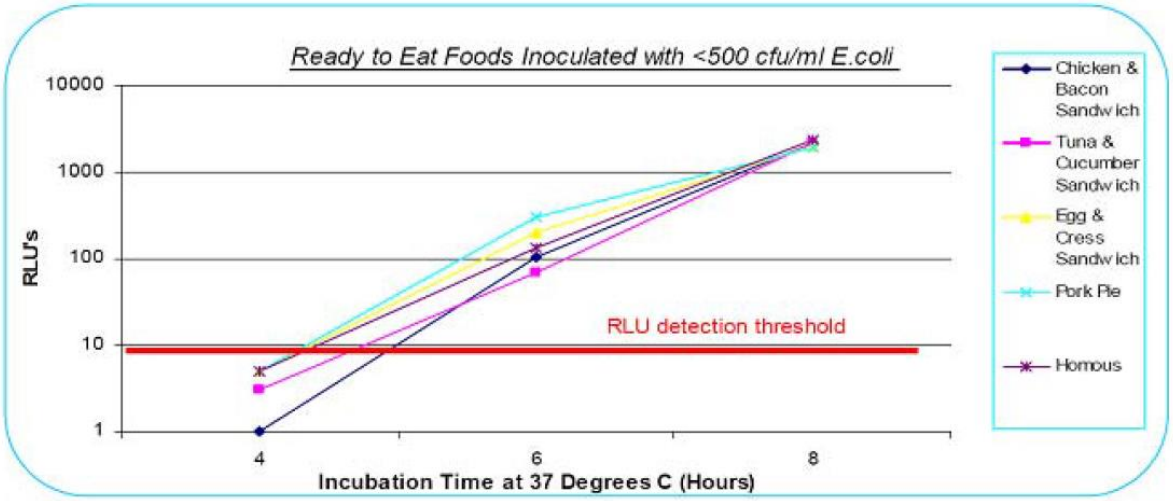
Results & Interpretation

This graph represents the limit of detection of MicroSnap. A range of ready-to-eat foods were inoculated with 500 cfu/ml of Escherichia coli and tested at given intervals. Results show that significant levels of E.coli were detected after only 5 hours.



Method and Time to Results	MicroSnap 10 cfu.g or ml 7 hours + 10 minutes	Traditional Method (VRBG) ISO 16140 24 hours
	% positive	% positive
50 food types from 5 food groups, (Meat, RTE, Salads, Milk and Dried Food)	99	95

MicroSnap is more accurate than traditional methods and yields results in significantly less time.

	Coliforms MicroSnap, ATP-CC100	**E.coli MicroSnap, ATP-EC100**
Sensitivity/NPV (%)	94	89
Specificity/PPV (%)	99	100

Third party validation shows sensitivity and specificity of the MicroSnap devices is excellent and better than traditional and convenience microbiological methods. ***Sensitivity*** can be defined as the ability of a method to detect a target organism compared to the ability of the reference method. ***Specificity*** can be defined as the ability of the method to detect only the target organism, and not suffer interference from non-target organisms, compare to the reference method.

	Testing Method for E.coli detection		
	Petrifilm EC	**DryCult Coli**	**MicroSnap**
Sensitivity (%)	40	33	89
Specificity (%)	91	79	100

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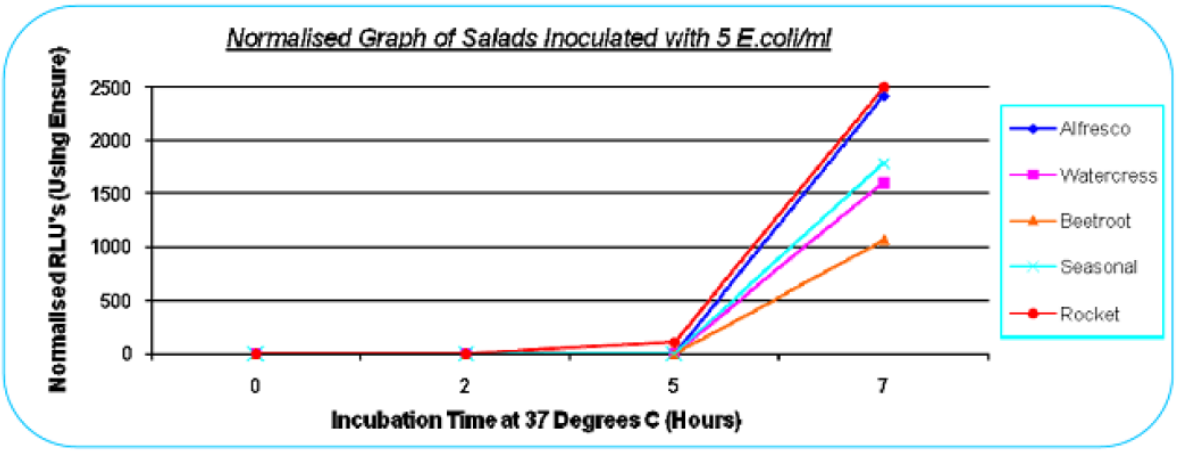

At very low level contamination Micro-Snap clearly detects the organisms in food matrices.

Summary

The MicroSnap™ has been proven to:

- ✓ Allow for faster quality assurance and product release
- ✓ Detect Low levels of specific organisms (<10 organisms)
- ✓ Provide quantitative results in **6 hours** and qualitative results in **8 hours**
- ✓ Allow repeat testing on one enrichment sample
- ✓ Be the fastest microorganism test for Coliform and E.coli today!

Best of all, the MicroSnap™ Coliform & E.coli tests are now: PERFORMANCE TESTED AOAC RESEARCH INSTITUTE LICENSE NUMBER 071302

Product Order Information

MicroSnap™

Part Number	Description
ATP-ES100	MicroSnap ™ STEP 1: Enrichment Swab- E.coli & Coliform (100 count)
ATP-CC100	MicroSnap ™ STEP 2: Detection Device for Coliform (100 count)
ATP-EC100	MicroSnap™ STEP 2: Detection Device for E.coli (100 count)
ATP-206	EnSURE™ Luminometer
ATP-625	Small Format Digital Dry Block Incubator with a 12-Swab Well Heating Block
ATP-MS190	***new*** Positive Control Kit for MicroSnap Coliform and/or MicroSnap E. coli, 10 vials
PT1A	Timer & Clock -4 event

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