

# DUPONT™ BAX® SYSTEM

## Real-Time PCR Assay for *Staphylococcus aureus*

*Staphylococcus aureus* is a food-borne pathogen often found in meat and poultry, sandwich fillings, macaroni and potato salad, cream-filled pastries, dairy products and powdered infant formula. Some strains produce enterotoxins that can cause illness at very low doses.

Culture methods for isolation and enumeration require multiple plates, complicated anaerobic incubation and a wait of 3-5 days or more for results. The good news today is that you can now use a BAX® System real-time PCR assay for reliable genetic detection of *Staphylococcus aureus* the day after sampling.



### BAX® System Real-Time PCR Assay *Staphylococcus aureus*

Part # D12762689

96 tests per kit

PCR tubes with tablets, optical caps, protease, lysis buffer

Store at 2-8°C

Stable to expiration date on label

### Benefits

- Speed – Next-day results
- Accuracy – Automated DNA-based analysis instead of subjective plate counts
- Exceptional sensitivity – Equivalent to or better than reference methods
- Flexibility – Presence/absence or threshold testing available
- Ease of use – Aerobic growth conditions simplify sample prep and tableted reagents reduce operator error
- Closed-cap system avoids amplicon contamination in the lab
- LIMS-compatible electronic data allow for easy storage, sharing and retrieval

### Features

- Less than 90 minutes real-time processing
- Can detect 1 cfu per gram in powdered infant formula
- Also detects thresholds as low as 10 cfu per gram, in line with meat industry standards
- Excellent inclusivity/exclusivity
- Can also be used to confirm presumptive positive colonies

### Approvals/Certifications

- **AOAC Research Institute** has certified this assay as Performance Tested Method<sup>SM</sup> #120701
- Validated on powdered infant formula for presence/absence
- Validated on ground beef and soy protein isolate for threshold testing
- Sensitivity equivalent or better than ISO and FDA-BAM methods
- Specificity ≥ 99%



This test kit's performance was reviewed by AOAC Research Institute and was found to perform to the manufacturer's specifications.



*The miracles of science™*

### Sample Preparation

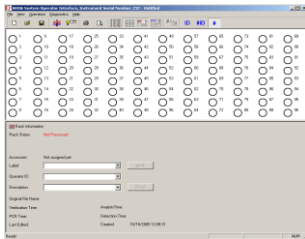


**Presence/absence testing:** Homogenize 10-gm sample of powdered infant formula in 90 mL GCTT. Incubate at 37±1°C for 22-24 hours.

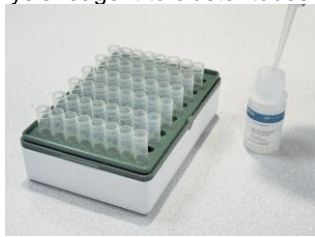
**Threshold testing (10 cfu/gm):** Homogenize 10-gm sample in 90 mL Butterfield's phosphate-buffered water. Transfer 1 mL of homogenate to 1 mL of 2X BHI with salt. Incubate at 37±1°C for 20-22 hours (ground beef) or 44-48 hours (soy protein isolate).

### BAX® System Protocol

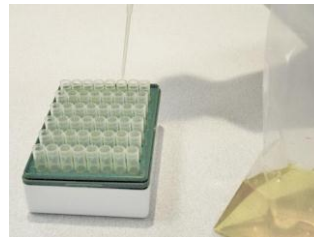
**8:00** Create rack file and warm up cycler.



**8:05** Mix protease with lysis buffer and transfer 200 µL of lysis reagent to cluster tubes.



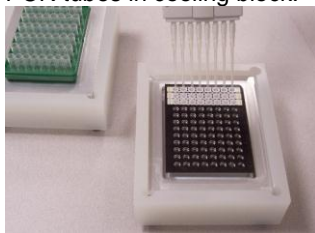
**8:10** Transfer 5 µL samples to cluster tubes.



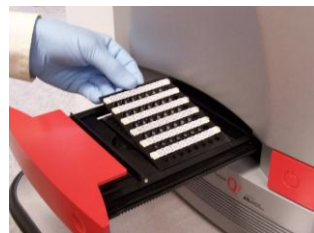
**8:20** Heat cluster tubes for 60 minutes at 55°C, then 10 minutes at 95°C.



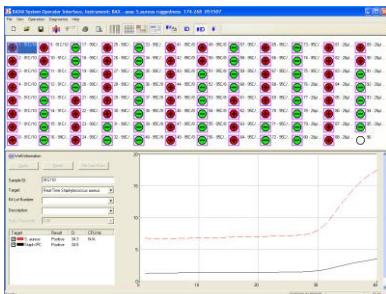
**9:30** Cool cluster tubes for 5 minutes in cooling block, then transfer 30 µL lysate to PCR tubes in cooling block.



**9:40** Place sealed PCR tubes in cycler and run program.



**11:10** Review results.



Target	Result	Ct	CFU/ml
<input checked="" type="checkbox"/> S. aureus	Positive	34.3	N/A
<input checked="" type="checkbox"/> Staph IPC	Positive	34.5	

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