

DUPONT™ BAX® SYSTEM

Real-Time PCR Assays - STEC Suite

The BAX® System real-time PCR assay suite for STEC is designed to identify the top six non-O157 Shiga toxin-producing *E. coli* (STEC) defined by the USDA Food Safety and Inspection Service (FSIS) as adulterants in the American beef industry. The BAX® System STEC suite, which uses real-time PCR technology to quickly and accurately detect the top six pathogenic STEC, can help food companies test for these pathogens and make product release decisions with confidence. The Screening assay for stx and eae clears negative samples fast, while two multiplex panel assays detect and differentiate the top six STEC serogroups.



BAX® System Real-Time PCR Assays

STEC Screening (stx and eae)

Part # D14642964

96 tests per kit

STEC Panel 1 (O26, O111, O121)

Part # D14642970

48 tests per kit

STEC Panel 2 (O45, O103, O145)

Part # D14642987

48 tests per kit

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

Store at 2-8°C

Benefits

- Speedy, accurate, reliable results help you make confident product decisions
- Simplified DNA extraction - no separate cell concentration steps
- Easy operation of automated instrument does not require advanced skills
- PCR tablets are conveniently packaged in individual PCR tubes to provide consistency, stability, and reduced chance of operator error
- Closed-tube system avoids amplicon contamination in the lab
- LIMS-compatible electronic data allows for easy storage, sharing and retrieval
- All of the quality, technical support, and ease of use you've come to expect from DuPont

Features

- Screening assay detects combination of STEC virulence genes (stx and eae) to quickly clear negatives
- Two panel assays identify which of the top six STEC serogroups, if any, are present
- Optional program available for detecting "stx only"
- Single-stage enrichment in as little as 9 hours for some food types
- All three assays use the same sample lysate – no need for additional sample prep between tests
- Real-time processing delivers results in just 55 minutes
- Identical sample prep and real-time cycling conditions let you detect STEC and *E. coli* O157:H7 in the same batch

Adoptions and Certifications

- **Adopted by the USDA-FSIS** as MLG #5B.04
- **Certified by AOAC-RI** as Performance Tested MethodSM #091301



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



Enrich with dextrose-containing TSB

Ground beef (25g or 65 g) – Homogenize sample 1:10 with pre-warmed (44°C) TSB. Incubate at 41°C for 9-24 hours.

Ground beef (325g or 375g) – Homogenize sample with 1.5 L pre-warmed (46°C) TSB with 2 mg/L novobiocin. Incubate at 41°C for 12-24 hours.

Beef trim (375g) – Massage sample with 1.5 L pre-warmed (46°C) TSB. Incubate at 41°C for 10-24 hours.

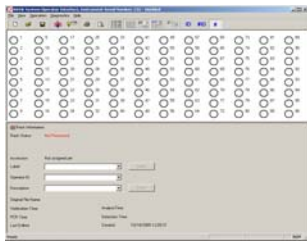
Enrich with BAX® System MP media*

Beef trim (375g) – Massage sample with 1.5 L pre-warmed (46°C) MP media. Incubate at 41°C for 10-24 hours.

** Enrich in BAX® System MP media to test for STEC and E. coli O157:H7 from a single enrichment.*

BAX® System Protocol

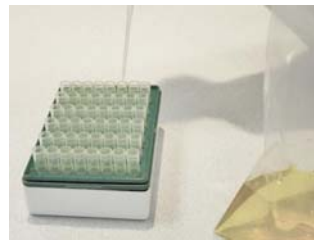
10:00 Create rack file and warm up cycler.



10:10 Mix protease with lysis buffer and transfer 200 µL of lysis reagent to cluster tubes.



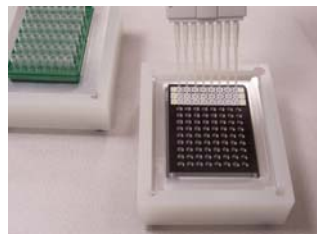
10:15 Transfer 20 µL samples to cluster tubes.



10:25 Heat cluster tubes for 20 minutes at 37°C, then 10 minutes at 95°C.



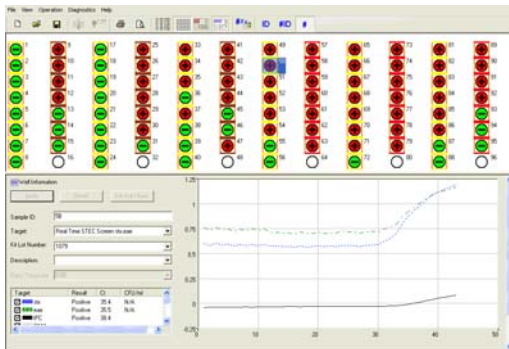
10:55 Cool cluster tubes for 5 minutes in cooling block, then transfer 30 µL to PCR tubes in cooling block.



11:10 Place sealed PCR tubes in cycler and run program.



12:05 Review results.



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