

Evaluation of the Atlas® STEC Detection Assay for Fresh Raw Ground Beef and Fresh Raw Beef Trim Samples

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Introduction: Sensitive and specific detection methods are needed for the identification of pathogenic shiga-toxin producing *E. coli* (STEC), including O157, O26, O45, O103, O111, O121, and O145 serotypes.

Purpose: To evaluate the Atlas STEC Detection Assay for the detection of *E. coli* O157:H7 and STECs in artificially inoculated Ground Beef and Beef Trim after a single enrichment of 375-g test portions.

Methods: The method included a single enrichment of 375-g test portions in modified Tryptic Soy Broth (mTSB) at 42°C. After sample transfer for bacterial lysis, template-specific sample extraction, amplification, and probe detection were all performed on the fully automated Atlas System. Fresh Raw Ground Beef, 30% fat, and fresh Raw Beef Trim were compared to the FSIS MLG 5.06 and 5B.02 confirmation procedures. Selectivity was evaluated by testing 50 target microorganisms and 30 non-target microorganisms as determined by POD analysis.

Results: The test method provided a positive result for 100% of 50 target microorganisms, and a negative result for 30 non-target microorganisms. No significant differences were observed between the test method and the FSIS MLG 5.06 and 5B.02 confirmation methods.

Significance: *E. coli* O157:H7 and STEC, including the FSIS regulated big six serogroups, can be detected in Raw Ground Beef and Beef Trim on the Atlas System.

For more information or to request the full poster of this abstract, please email: info@rokabio.com



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