

A T C A T C G T A T C C A T C C C T A T C C A T C C C T
T C A T C C C T A T C G C T T C C A T C T G C T T C A
A T C T T C A T C C G T A T C T G C T T C C A T C T G C T
C C A T T T C A T C C G T A T C
G C T T C C A T C C C T A T C G C
T C A T C C A T C C C T A T C T G C T T C C A T C T G C T



BIOTECON

Diagnostics

foodproof®

STEC Detection Kits

Screening and Identification

For safer food – BIOTECON Diagnostics – simply builds up trust!

Shiga toxin-producing *E. coli* (STEC) like *E. coli* O157:H7, *E. coli* O157:H- or *E. coli* O104:H4 are known to cause diseases like diarrhea, hemorrhagic colitis (HC) and the potentially fatal hemolytic uremic syndrome (HUS). STEC are most commonly transmitted through undercooked minced meat, unpasteurized or inadequately pasteurized milk, cold sandwiches, sprouts and vegetables. As most of these foods have relatively short shelf lives, the need for a rapid, accurate and sensitive detection method is a major food safety issue.

The **foodproof® STEC Screening and Identification LyoKits®** are based on real-time PCR technology. STEC screening provides individual answers for *stx1*, *stx2*, and *eae* genes in one reaction. STEC identification can detect and identify the eight most important STEC serotypes in just one single PCR test. The completely new and unique assay design enables melting curve analysis with sequence specific 5' nuclease probes, whereby the highest specificity is achieved.

Fast: < 24 h to result with < 40 min of hands-on time. Validated 8 h enrichment time protocol for meat.

Safe: Prevention of false-positive results and carry-over contamination by using Uracil-N-Glycosylase.

Sensitive: Validated to detect 1–10 cfu/25 g sample, including enrichment.

Easy: Convenient, complete solution, all controls included. Rapid protocol for colony confirmation available.

Experienced: Manufacturer of PCR-based rapid tests for the food industry since 1998 with an ISO 17025 accredited service lab.



Best Specificity

100% Inclusivity

All *stx1*, *stx2* and *eae* variants and STEC serogroups have been tested successfully.

100% Exclusivity

>120 strains tested, including closely related organisms and microorganisms of the same habitat

Matrices

> 100* tested food matrices, including meat, seafood, milk, fruits, vegetables and environmental samples

Approvals

R 300 10 and R 302 10



AOAC approved for "All Kind of Foods"

R 602 11 and R 602 12
AOAC-PTM validated

A T C A T C G T A T C C A T C C C T A T C C A T C C C T
T C A T C C C T A T C G C T T C C A T C T G C T T C A
A T C T T C A T C C G T A T C T G C T T C C A T C T G C T
C C A T T T C A T C C G T A T C
G C T T C C A T C C C T A T C G C
T C A T C C A T C C C T A T C T G C T T C C A T C T G C T



BIOTECON Diagnostics

Workflow



Sample Enrichment
Start



DNA Extraction
approx. 30 min



PCR Setup
approx. 10 min



Real-time PCR Run
60 - 100 min

Analysis Results in < 2.5 h

STEC Detection Kits

- R 602 11 **foodproof®** STEC Screening LyoKit® (5' nuclease) - 96 reactions
Detection of the virulence genes *stx1*, *stx2* and *eae*
- R 602 12 **foodproof®** STEC Identification LyoKit® (5' nuclease) - 48 reactions
Identification of the 8 most important serogroups in one single PCR test
(O26, O45, O103, O104, O111, O121, O145 and O157)
- F 602 54 **foodproof®** STEC Typing LyoKit® - 48 reactions
Detection of *stx1/stx2*, *eae*, *aggR* and *aaiC* in bacterial colonies in one single PCR test
- R 302 10 **foodproof®** *E. coli* O157 Detection Kit (5' nuclease) - 96 reactions
- F 602 09 **foodproof®** *E. coli* and *Shigella* Detection LyoKit® - 96 reactions

Specific DNA Extraction Kits

- S 400 07 **foodproof®** StarPrep One Kit - bulk purification
- S 400 18 **foodproof®** StarPrep Three Kit - bulk purification (for R 602 11 & R 602 12)
- S 400 11 **foodproof®** Magnetic Preparation Kit I - automated purification



- Lyophilized LyoKits®: Convenient, pre-filled reaction mix and easy storage
- With internal amplification control and our proven UNG system

LyoKits® Storage at 2 °C to 8 °C
Storage at -15 °C to -25 °C

Safe and Specific

In accordance with ISO/TS 13136 and USDA-FSIS method MLG 5C.00

The *stx2f* variant is included, which is not detected using the ISO/TS 13136 method

Instrument Compatibility

LightCycler® 480,
LightCycler® 96, AriaMx,
Mx3005P, CFX96™, Applied Biosystems™ 7500 Fast, etc.

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