

CHROMagar™ STEC



**For detection of Shiga-Toxin
producing *E. coli* (STEC)**



Plate Reading

- Most common Shiga-Toxin *E. coli* serotypes
→ mauve
- Other Enterobacteriaceae
→ colourless, blue or inhibited
- Gram (+) bacteria
→ inhibited



For detection of Shiga-Toxin producing *E. coli* (STEC)

Background

An increasing and worrisome number of studies have lately shown that, non-O157 ShigaToxin-producing *E. coli* (STEC) have been responsible for foodborne poisoning outbreaks. The CDC has also reported warnings about this potential risk:

“ Disease caused by Shiga toxin-producing *Escherichia coli* (STEC) ranges from self-limiting diarrhea to hemorrhagic colitis and hemolytic uremic syndrome (HUS). Serotype O157:H7, the most frequently implicated STEC causing hemorrhagic colitis and HUS, has been isolated from large foodborne outbreaks, as well as sporadic cases, in North America and abroad. However, 60 STEC serotypes have been implicated in diarrheal disease, and several non-O157:H7 serotypes have been implicated as the cause of foodborne outbreaks and HUS in the United States, Europe, and Australia. Studies from Canada, Europe, Argentina, and Australia suggest that non- O157:H7 STEC infections are as prevalent, or more so, than O157:H7 infection.”

CDC report « Prevalence of Non-O157:H7 Shiga Toxin-Producing *Escherichia coli* in Diarrheal Stool Samples [...]»

Therefore, several regulatory authorities urge worldwide food industry to implement measures to control the absence of such organisms in their production.

In many cases, laboratories have limited their search for pathogenic *E. coli* to the common O157 serotype. This is due, among other reasons, to the fact that there were no available selective culture media for non-O157 *E. coli*. CHROMagar™ STEC is designed to fill this gap: detection, as mauve colonies, of not only the classical STEC O157, but also many other serotypes.

Intended Use

CHROMagar™ STEC is a selective chromogenic culture medium intended for use in the qualitative direct detection, differentiation and presumptive identification of Shiga-like-toxin producing *Escherichia coli* (STEC), to aid in the diagnosis of STEC infections. The test is performed with rectal swab and stools. Results can be interpreted after 18-24 h of aerobic incubation at 35-37 °C.

Concomitant cultures are necessary to recover organisms for further microbiological testing or epidemiological typing. A lack of growth or the absence of mauve colonies on CHROMagar™ STEC does not preclude the presence of STEC. CHROMagar™ STEC is not intended to diagnose infection nor to guide nor monitor treatment for infections.

CHROMagar™ STEC can also be used in the detection of STEC in the analyses of food products for human consumption, animal feed and in environmental samples.

Medium Performance

- 1 **Easy reading** : A majority of STEC strains grow in mauve colony color, while other bacteria grow in blue, colourless or are inhibited.
- 2 **Highly STEC selective medium**: Excellent tool for large number of samples screening procedures.
- 3 **Worldwide premiere**: Unique medium in the market for STEC detection.
- 4 **Flexibility**: It can be supplemented with additional compounds to render it even more selective for the strain causing an outbreak.

Medium Description

Powder Base CHROMagar™ STEC base	Total 30.8 g/L Agar 15.0 Peptone and yeast extract 8.0 Salts 5.2 Chromogenic mix 2.6 Storage at 15/30 °C - pH: 6.9 +/-0.2 Shelf Life > 18 months
+	
CHROMagar™ STEC Supplement (included in the pack)	Freeze-dried vials 5 x 1000 mL Storage at 15/30 °C Shelf Life > 18 months
Usual Samples	Clinical: Rectal swab, stools Food industry: Food products for human consumption, animal feed, environmental samples.
Procedure	Direct Streaking, Incubation 18-24 h at 35-37 °C. +/- prior enrichment step. Aerobic conditions.
Scientific Publications on this product: available on www.CHROMagar.com Please read carefully the instructions for use (IFU document) available on www.CHROMagar.com	



Analytical data *		Clinical data**
CHROMagar™ STEC		
Sensitivity		
Serotype O157	96 %	
Serotype O26	100 %	
Serotype O45	86 %	
Serotype O103	50 %	91.4 %
Serotype O111	92 %	
Serotype O121	80 %	
Serotype O145	100 %	
Specificity	81 %	86.7 %

* Data obtained after 18-24 h incubation at 37 °C in aerobic conditions in the study «Performance comparison of CHROMagar™ STEC and the SHIGA TOXIN QUIK CHEK™ assay using a panel of Shiga toxin *Escherichia coli* isolates». Lubeskie *et al.* Poster ECCMID 2016.

** Data obtained after 24 h incubation at 37 °C in aerobic conditions with 329 stool samples in the study «Evaluation of CHROMagar STEC and STEC O104 Chromogenic Agar Media for Detection of Shiga Toxin-Producing *Escherichia coli* in Stool Specimens». Gouali *et al.*, 2013. *Eur. J. Clin. Microbiol.*

Order References

Please use these product references when contacting your local distributor:

5000 mL pack ST162
(included in this reference: powder base base ST162(B) + supplement ST162(S))
10 kg pack ST163-10kg
(included in this reference: powder base base ST163-10kg(B) + supplement ST163-325(S))

Manufacturer: CHROMagar, 29 avenue George Sand, 93210 La Plaine Saint-Denis - France
Email: CHROMagar@CHROMagar.com
Website: www.CHROMagar.com
Find your nearest distributor on
www.CHROMagar.com/contact