

Native Escherichia coli O104:H12 Cells, Heat-Inactivated

Cat. No. ESC-225 **Lot. No.** (See product label)

SPECIFICATION

Product Overview

Heat-killed Escherichia coli O104:H12 cells in dextran solution. Antigen is intended for use as a positive control in immunoassay development for E. coli detection.

Background

E. coli was first described in 1885 by Theodor Escherich, an Austrian paediatrician, who called it Bacterium coli commune to reflect its universal occurrence in the faeces of healthy individuals (Escherich 1885). In 1939 the relationship between E. coli and infantile diarrhoea was confirmed (Bray 1945). Serotyping based on the somatic lipopolysaccharide or 'O' antigen and the flagella or 'H' antigen, helped distinguish the serogroups most likely to be associated with the disease (Kauffmann 1947), which included a set of O serogroups, notably O26, O55 and O111 (Ewing et al. 1963). Shiga toxin-producing Escherichia coli (STEC) are an important cause of haemorrhagic colitis and the diarrhoea-associated form of the haemolytic uraemic syndrome. Of the numerous serotypes of E. coli that have been shown to produce Shiga toxin (Stx), E. coli O157:H7 and E. coli O157:NM (non-motile) are most frequently implicated in human disease (De Boer & Heuvelink, 2000). Human infections with Enterohaemorrhagic Escherichia coli strains (EHEC) as agents of Haemorrhagic Colitis (HC) and Haemolytic Uraemic Syndrome (HUS) are frequently associated with the consumption of EHEC contaminated foodstuffs of different origins. EHEC O26, O103, O111, O118, O121, O145 and O157 strains are responsible for the majority of HC and HUS cases worldwide. Non-O157:H7 STEC (Shiga toxin-producing E. coli), including E. coli O145 causes illnesses similar to those triggered by O157:H7 STEC due to production of Shiga toxin. Although most reported STEC cases are caused by O157:H7, a large number of non-O157 cases are often misdiagnosed or unreported due to poor identification methods and

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epidemiological surveillance. An outbreak of Escherichia coli O104:H4 occurred in Germany in 2011, in which 54 people died and 22% of the 3186 cases of E. coli O104 developed the severe complication, hemolytic uremic syndrome (HUS) (O'Brien, 2014).

Notes	This product is intended for research and manufacturing uses only. It is not a diagnostic device. The user assumes all responsibility for care, custody and control of the material, including its disposal, in accordance with all regulations.
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Type	Native
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ClassID 1	Infectious Disease
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GENE INFORMATION

Synonyms	Escherichia coli O104:H12
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