Native Escherichia coli O26:H11 Cells, Heat-Inactivated

Cat. No. ESC-230 **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Heat-killed Escherichia coli O26:H11 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). Initial testing also showed that only one strain, H19 serotype O26:H11, produced a toxin, and this strain is now known to be the first strain of Verocytotoxin-producing (VTEC) to be described in the literature. Verocytotoxin is a cytotoxin that induced a distinctive cytotoxic effect on Vero that was different and easily distinguished from that produced by heat-labile enterotoxin. That vtx is mediated by a bacteriophage and can be transferred between strains was first demonstrated in a strain of VTEC O26 (Scotland et al. 1983). Escherichia coli serogroup O26 is an established diarrhoeal pathogen (Jenkins et al., 2008). O26 has featured in many studies of diarrhoeal disease over the last 25 years and in countries where tests include serogroups other than O157, the incidence of O26 is similar to that of O157. O26 possess large plasmids that contain genes encoding potential virulence factors including an enterohaemolysin, which acts as a pore-forming cytolysin. Other genes present on the large plasmids include katP, which encodes a catalase-peroxidase (Brunder et al. 1996) and a serine protease

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	(EspP) that cleaves human coagulation factor V (Brunder et al. 1997). Recent work has demonstrated that this plasmid also harbours a 10-kb virulence gene designated toxB in VTEC O157 and that DNA sequences related to toxB have been detected in VTEC O26 (Tozzoli et al. 2005). It has been shown that VTEC O26 contains a high pathogenicity island (HPI) also found in pathogenic Yersinia species, but not present in VTEC O157 (Karch et al. 1999; Zhang et al. 2000).
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.
Type	Native
ClassID 1	Infectious Disease

GENE INFORMATION

Synonyms	Escherichia coli O26:H11

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