**E coli Selective Supplements**
dehydrated media supplements for the *in vitro* isolation of *Escherichia coli*

**Description**
Verocytotoxin-producing *E coli* have become of particular significance in the last decade with a number of deaths associated with outbreaks of infection in many parts of the world. *E. coli* O157:H7 is the most common serogroup associated with the production of verotoxin and resultant haemorrhagic colitis and haemolytic uraemic syndrome. The source of infection is often contaminated beef and beef products but it has also been isolated from milk and dairy products. *E. coli* O157 does not ferment Sorbitol and the substitution of this sugar into MacConkey agar differentiates *E. coli* from non-Sorbitol fermenters including O157. The necessary selectivity of the medium is enhanced by the inclusion of Cefixime and Potassium tellurite. However, although cattle are obviously a reservoir of *E. coli* O157, the organism is not readily isolated from meats. The use of enrichment procedures has improved the isolation rates. Both Novobiocin and VCC supplements have been used for the preparation of enrichment broths and have been shown to work best in a tryptone soya broth enhanced with bile salt and dipotassium hydrogen phosphate.

The inclusion of triphenyl tetrazolium chloride in Tergitol-7 agar provides a method for early detection (10 hours) and selection of *E. coli* and faecal contamination in foodstuffs. The sodium heptadecyl sulphate inhibits undesired bacteria while the fermentation of lactose and failure to convert TTC produces yellow *E. coli* colonies while other uninhibited coliforms produce red formazan from TTC. Yeasts will grow on the medium; Candida giving white colonies while other yeasts give red colonies.

The order codes use a suffix of -A, -B, -C or -D for volumes of 500ml, 1l, 2.5l or 5l respectively.

**Supplement Formulae:**
- **IS/EC- O157 Isolation**
  - Cefixime .05 mg/l
  - Potassium tellurite 2.5 mg/l

- **ES/EC2- O157 Enrichment**
  - Novobiocin 20 mg/l

- **IS/EC4- Early detection**
  - Vancomycin .05 mg/l
  - Cefixime .05 mg/l

- **ES/EC3- O157 Enrichment**
  - Cefsulodin 2.5 mg/l

**Precautions**
This product is for *in vitro* diagnostic use, and should be used by properly trained laboratory professionals. Dispose of as clinical waste.

**Storage**
Store in sealed container in cool, dry location. Media supplements should not be used if packaging is damaged, if the expiry date has passed, or if there are other signs of deterioration or contamination. Store the prepared media at 4-8°C in the dark for not more than 1 week.

**Instructions for use**
*E coli* Selective Supplements are only recommended for use with the following media:
- IS/EC-
  - Sorbitol MacConkey agar
- ES/EC2 / 3- Tryptose Soya Broth with 1.5g/l each of bile salts and dipotassium hydrogen o-phosphate added
- IS/EC4-
  - Tergitol-7 agar

**Procedure**
1. Make up the appropriate volume (see vial label) of medium, and sterilise according to the manufacturer’s recommendations.
2. Allow to cool to 45°C.
3. Rip off the plastic cap from the supplement vial and discard.
4. Using aseptic technique, remove the rubber bung and avoid further contamination.
5. Add 5ml of sterile water and allow to dissolve. It may be necessary to shake to achieve final solution.
6. Add the contents of the vial to the medium.
7. Mix carefully and distribute medium into suitable sterile containers.
8. Use according to the manufacturer’s recommendations.

**Quality Assurance**
All lot numbers have been reconstituted in sterile solvent, and tested for sterility, and performance using the quality control organisms listed below, and have been found to be acceptable. Characteristics assessed include inhibitory activity at normal, higher than normal, and lower than normal concentrations of usage, to a range of test organisms, and confirmation of growth of the organisms to be isolated at a higher recovery than 66% of the control growth.

**References**