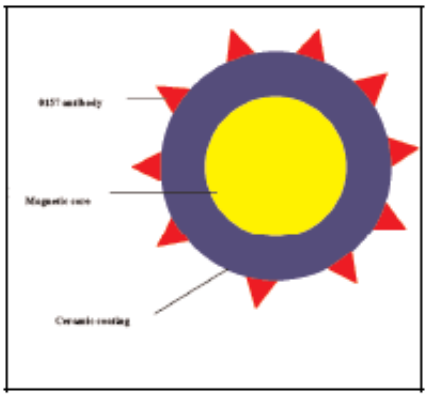
CAP001

Captivate™ O157

For immunomagnetic separation of E.coli O157:H7 from foods and other samples

DESCRIPTION

Captivate™ O157 are magnetisable particles coated with specific antibody intended for the isolation of *E.coli* O157:H7 from food, animal feeds, beverages, pharmaceutical or environmental samples. The particles help to concentrate O157:H7 cells in mixed culture reducing the probability of missing low numbers or overgrowth of O157:H7 colonies by competing flora.



E.coli O157:H7 is the primary serovar associated with foodborne gastrointe stinal infection, resulting in self limiting diarrhoea, but which can lead to serious disease conditions such as haemorrhagic colitis, haemolytic uraemic syndrome (HUS) and throm-botic thrombocytopaenic purpura (TTP).

The organism itself is associated with raw meats and unpasteurised milk[1], probably due to the implication of farm animals and particularly cattle as carriers of *E.coli* O157:H7[2]. Large outbreaks have been recorded in the United States from consumption of unpasteurised apple juice (apple cider) possibly as a result of using apples which have fallen to the ground where the potential for contamination with the organism exists[3,4].

The recommended protocol for the isolation of *E.coli* O157:H7 employs a 6 hour enrichment step in Modified tryptone soy broth (MTSB) followed by immunomagnetic separation and plating onto sorbitol macconkey agar supplemented with cefixime and potassium tellurite (CT-SMAC)[5].

PRODUCT PRESENTATION

Captivate™ O157 is available in packs of 50 test, product code CAP001-050 and 250 test, product code CAP001-250. Materials required but not provided include phosphate buffered saline, pipettes and tips, stomacher machine and bags, magnetic separator rack, culture media and consumables.

Captivate™ PROCEDURE

1) Add 20µL of well mixed *Captivate*™ particles to a suitable tube (1.5 - 2.5 ml volume).

2) To this add 1ml of the enrichment culture taking care to avoid transfer of food debris.

3) Cap tube tightly and rotamix the suspension for 30 minutes at room temperature.

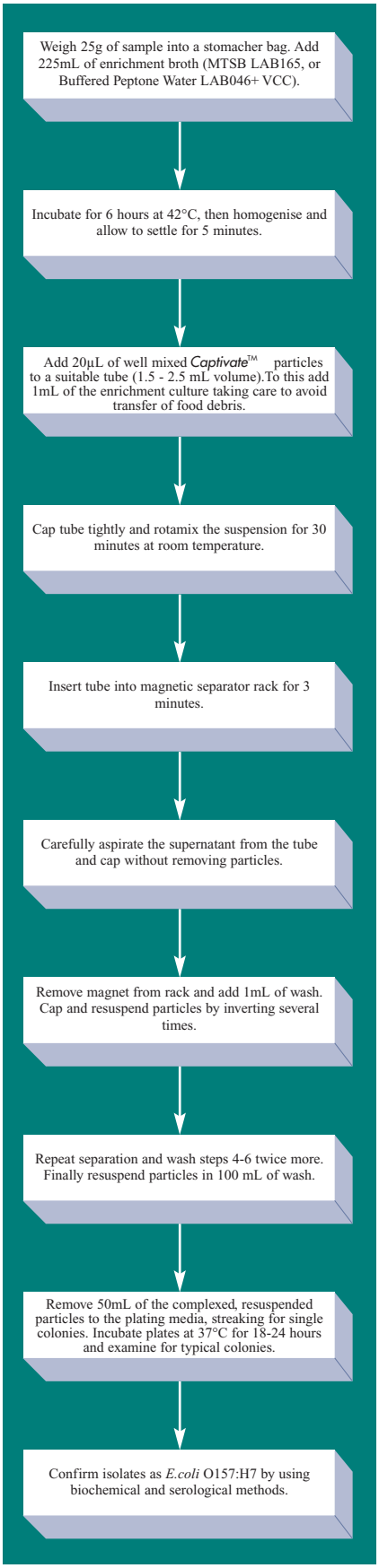
4) Insert tube into magnetic separator rack for 3 minutes.

5) Carefully aspirate the supernatant from the tube and cap without removing particles.

6) Remove magnet from rack and add 1mL of wash. Cap and resuspend particles by inverting several times.

7) Repeat separation and wash steps 4-6 twice more. Finally resuspend particles in 100µL of wash.

8) Remove 50µL of the complexed, resuspended particles to the plating media, streaking for single colonies. Incubate plates at 37° C for 18-24 hours and examine for typical colonies.



REFERENCES

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2) Martin M.L. et al. (1986) Isolation of *Escherichia coli* from cattle associated with two cases of of hemolytic syndrome. Lancet ii 1043.

3) Besser R.E. et al (1993) An outbreak of diarrhoea and hemolytic uremic syndrome from *Escherichia coli* O157:H7 in fresh pressed apple cider. JAMA 259 2217-2220

4) McCarthy M. (1996) E.coli O157:H7 outbreak in USA traced to apple juice. Lancet 348 1299.

5) Bolton F.J.; Crozier L.; Williamson J.K. (1995) New technical approaches to *Escherichia coli* O157. PHLS Microbiol. Dig. 12 67-71.

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