

MAC CONKEY SORBITOL AGAR

Powdered and ready to use selective and differential medium,
with sorbitol, for the detection of *E.coli* O157

Typical formula (g/l)

Tryptone	17.000
Peptocomplex	3.000
D-Sorbitol	10.000
Bile Salts No. 3	1.500
Sodium Chloride	5.000
Neutral Red	0.030
Crystal Violet	0.001
Agar	14.500

DIRECTIONS

Suspend 51g in 1000ml of cold distilled water; heat to boiling, distribute and sterilise by autoclaving at 121°C for 15 minutes.

Final pH 7.1 ± 0.2

DESCRIPTION

MacConkey Sorbitol Agar (SMAC) prepared according to the formulations described by Rappaport and Henig is used for the isolation and presumptive identification of *Escherichia coli* O157. *E. coli* O157 is an enteric pathogen that typically causes hemorrhagic colitis, produces a toxin which is similar or even identical to that produced by *Shigella dysenteriae* 1, with cytotoxic properties. These strains are characterised by their inability to ferment sorbitol and to hydrolyse glucuronide derivatives. SMAC differs from MacConkey Agar in containing sorbitol as a fermentable carbohydrate instead of lactose. *E. coli* O157 strains do not ferment sorbitol and grow with colourless colonies.

TECHNIQUE

Inoculate by streaking the surface of the plates with a suspension of the sample. Incubate at 37°C for 24 hours. Do not delay the reading of the plates beyond 24 hours because the colour intensity fades in sorbitol fermenting colonies.

Colony morphology on SMAC: *E.coli* O157 forms colourless colonies but otherwise typical of that produced by other *E.coli* species. Any bacteria capable of fermenting sorbitol (including other *E.coli* species) form pink colonies.

Confirm the isolated colonies with a slide agglutination test.

SMAC cannot be used solely to detect VTEC strains because some *E.coli* O157 strains have atypical appearance on these media and some non-toxic strains do not ferment sorbitol.

User quality assurance (37°C - 24hrs)

Productivity Control: *E.coli* O157 NCTC 12900: growth, colourless colonies

Specificity Control: *E.coli* ATCC 25922: growth, red colonies

Selectivity control: *S.aureus* ATCC 25923: inhibited

Storage

Dehydrated medium: 10-30°C

User prepared plates: 15 days at 2-8°C

Ready to use plates: 2-8°C

REFERENCES

- Centres for Disease Control (1982) Mortal. Weekly Rep. **31**, 584.
- Rappaport F and Henig E. (1952) J. Clin. Path. **5**,361

PACKAGING

401669S2

MacConkey Sorbitol Agar,

500g (9.8 l)

541669S

MacConkey Sorbitol Agar,

20 ready to use plates