AOAC
BAM
COMPF
EP
SMD
SMWW
USP

MacCONKEY Agar

Selective agar for the isolation of *Salmonella*, *Shigella* and *coliform* bacteria from faeces, urine, foodstuffs, waste water etc. according to MacCONKEY (1950).

IVD

In Vitro Diagnostic Medical Device –

For professional use only

CE

Version 17-10-2008
Merck KGaA, 64271 Darmstadt

See also General Instruction for Use „How to use Dehydrated Culture Media"

For MSDS, warnings and precautions see our website: www.merck-chemicals.com

Principle

Microbiological method.

General Information

The composition of this medium largely complies with the United States Pharmacopeia 29 (2006) and the European Pharmacopeia 5.6.

Mode of Action

Bile salts and crystal violet largely inhibit the growth of the Gram-positive microbial flora. Lactose and the pH indicator neutral red are used to detect lactose degradation.

Typical Composition (g/litre)

Peptone from gelatin 17.0; peptone from casein 1.5; peptone from meat 1.5; sodium chloride 5.0; lactose 10.0; bile salt mixture 1.5; neutral red 0.03; crystal violet 0.001; agar-agar 13.5.

Preparation

Suspend 50 g/litre, autoclave (15 min at 121 °C), pour plates.

pH: 7.1 ± 0.2 at 25 °C.

The plates are clear and red-brown to dark red.

Storage

Ready-to-use. Usable up to the expiry date when stored dry and tightly closed at +15 to +25 °C. Protect from light.

After first opening of the bottle the content can be used up to the expiry date when stored dry and tightly closed at +15 to +25 °C.

Specimen

e.g. Stool, urine.

Clinical specimen collection, handling and processing, see general instructions of use.

Experimental Procedure and Evaluation

Inoculate by spreading the sample material on the surface of the plates.

Incubation: 18-24 hours at 35 °C aerobically.

Lactose-negative colonies are colourless; lactose-positive colonies are red and surrounded by a turbid zone which is due to the precipitation of bile acids as a result of pH decrease.

Appearance of Colonies	Microorganisms
Colourless, translucent	Salmonella, Shigella and others
Large, red, surrounded by turbid zone	Escherichia coli
Large, pink, mucoid	Enterobacter, Klebsiella
Very small, opaque, isolated colonies	Enterococci, Staphylococci and others

Literature

European Pharmacopeia II, Chapter VIII, 10.

MacCONKEY, A.: Lactose-fermenting bacteria in faeces. - J. Hyg., 8; 333-379 (1905).

United States Pharmacopeia XXIII, Chapter "Microbiol. Limit Test", 1995.

Ordering Information

Product	Ordering No.	Pack size
MacCONKEY Agar	1.05465.0500	500 g
MacCONKEY Agar	1.05465.5000	5 kg
Merckoplate® MacCONKEY Agar	1.10748.0001	20 plates
Merckoplate® MacCONKEY Agar	1.15276.0001	480 plates

MacCONKEY Agar

Quality control (spiral plating method)

Test strains	Inoculum (cfu)	Recovery (%)	Colour of		Precipitate
			colony	medium	
Escherichia coli ATCC 8739 *	10 -100	≥ 30	red	red	+
Salmonella typhimurium ATCC 14028	10 -100	≥ 30	colourless	yellowish	-
Salmonella dublin ATCC 15480	10 -100	≥ 30	colourless	yellowish	-
Shigella sonnei ATCC 11060	10 -100	≥ 30	colourless	yellowish	-
Proteus mirabilis ATCC 29906	10 -100	≥ 30	colourless	yellowish	-
Bacillus cereus ATCC 11778	> 10^5	≤ 0.01			
Staphylococcus aureus ATCC 6538	> 10^5	≤ 0.01			
Enterococcus hirae ATCC 8043	> 10^5	≤ 0.01			
Enterococcus faecalis ATCC 19433	> 10^5	≤ 0.01			

* (at 37 °C and 43-45 °C)