PROGRAM Standard Operating Procedure – Laboratory Services	
Title: MIC60040 – Culture Media Quality Control	Policy Number:
Program Name: Laboratory Services	
Applicable Domain: Lab, DI and Pharmacy Services	
Additional Domain(s):	
Effective Date:	Next Review Date:
Issuing Authority: Director, Health Services	Date Approved:
Accreditation Canada Applicable Standard: N/A	

GUIDING PRINCIPLE:
All prepared media received will be examined visually for colour change, precipitate, lysis of blood, contamination, etc. An order will automatically be generated in TQC when media requiring quality control is received. Any atypical observation should be brought to the attention of the Technical Supervisor, Microbiology who will then notify the supplier.

Performance quality control testing for routine commercially prepared media is not required except for the following media:

MRSA*Select* II agar	StrepB*Select* agar
VRE*Select* agar	LIM broth
Uri*Select* 4 agar	

Certificate of Analysis are online when needed. See manufacturer website for certificate.

PURPOSE/RATIONALE:
To ensure that quality control testing is performed on non-exempt culture media before being used to test patient samples.

SCOPE/APPLICABILITY:
This procedure applies to Medical Laboratory Technologists (MLTs) performing quality control for culture media.

REAGENTS and/or MEDIA:

- ATCC organisms

SUPPLIES:

- Plastic Vitek tubes and caps
- 0.45% saline
- Sterile swabs
- 1 µL loop

EQUIPMENT:

- DensiCHEK Plus

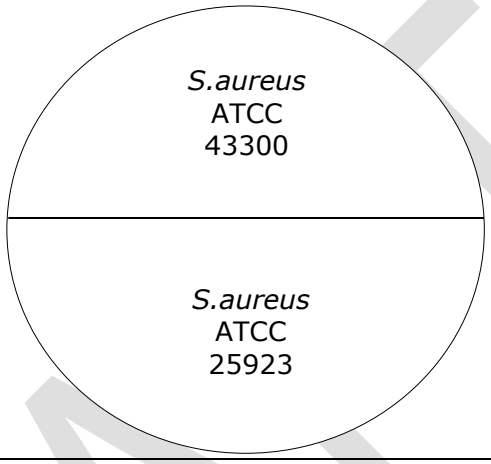
SPECIAL SAFETY PRECAUTIONS:

Containment Level 2 facilities, equipment, and operational practices for work involving infectious or potential infectious materials or cultures.

- Ensure that appropriate hand hygiene practices be used.
- Lab gown must be worn when performing activities with potential pathogens.
- Gloves must be worn when direct skin contact with infected materials is unavoidable.
- Eye protection must be used when there is a known or potential risk of exposure of splashes.
- All procedures that may produce aerosols or involve high concentrations or large volumes should be conducted in a biological safety cabinet (BSC).
- The use of needles, syringes and other sharp objects should be strictly limited.

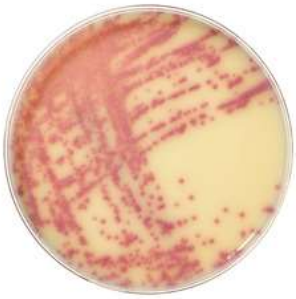
All patient specimens are assumed to be potentially infectious. Routine Practices must be followed. Since viable micro-organisms are used, all cultures must be handled with appropriate precautions. All equipment in contact with cultures should be decontaminated by appropriate methods.

PROCEDURE INSTRUCTIONS:

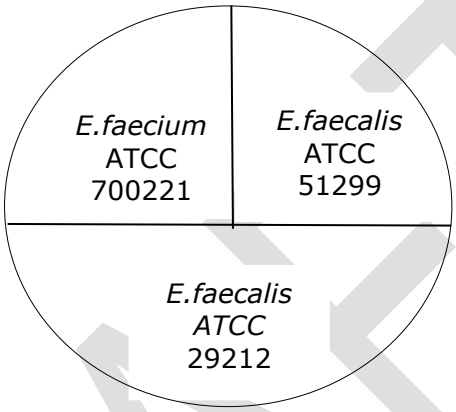
Step	Action
Media quality control for MRSA*Select* II agar	
1	The following 2 quality control organisms are used to perform QC testing on MRSA*Select* II agar: 1. *Staphylococcus aureus* ATCC 43300 2. *Staphylococcus aureus* ATCC 25923
2	Divide the agar plate into 2 equal sections and label as follows: 
3	Label 2 Vitek test tubes with each of the above QC organisms. Dispense 3 mL of saline into each tube.
4	Prepare a 0.5 McFarland standard suspension of the required isolates.
5	Dip a 1 µL loop into the 0.5 McFarland concentration of the QC organism and inoculate the media.
6	Incubate in the O_2 incubator for 16-24 hours.
7	Enter results into TQC. Refer to MIC60110-Entering Quality Control Results into TQC.

INTERPRETATION OF RESULTS:

S.aureus ATCC 43300	Pink colonies
S.aureus ATCC 25923	No growth

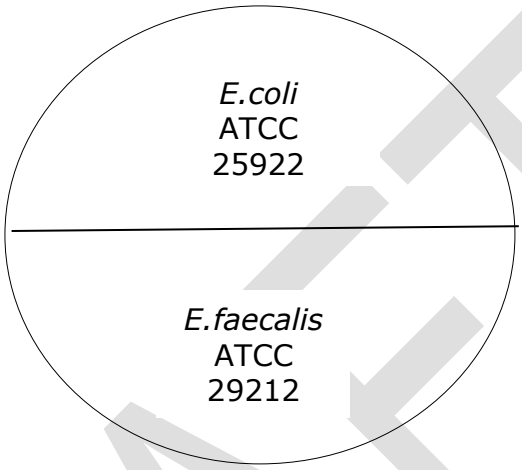


PROCEDURE INSTRUCTIONS:

Step	Action
Media quality control for VRE*Select* agar	
1	The following 3 quality control organisms are used to perform QC testing on VRE*Select* agar: 1. *Enterococcus faecium* ATCC 700221 2. *Enterococcus faecalis* ATCC 51299 3. *Enterococcus faecalis* ATCC 29212
2	Divide the agar plate into 3 equal sections and label as follows: 
3	Label 3 Vitek test tubes with each of the above QC organisms. Dispense 3 mL of saline into each tube.
4	Prepare a 0.5 McFarland standard suspension of the required isolates.
5	Dip a 1 µL loop into the 0.5 McFarland concentration of the QC organism and inoculate the media.
6	Incubate in the O_2 incubator for 16-24 hours.
7	Enter results into TQC. Refer to MIC60110-Entering Quality Control Results into TQC.

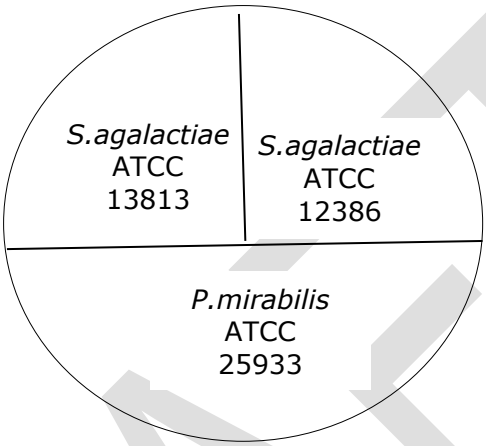
INTERPRETATION OF RESULTS:

Enterococcus faecium ATCC 700221	Pink colonies
Enterococcus faecalis ATCC 51299	Blue colonies
Enterococcus faecalis ATCC 29212	No growth

Step	Action
Media quality control for URI*Select* 4 agar	
1	The following 2 quality control organisms are used to perform QC testing on URI*Select* 4 agar: 1. *Escherichia coli* ATCC 25922 2. *Enterococcus faecalis* ATCC 29212
2	Divide the agar plate into 2 equal sections and label as follows: 
3	Label 2 Vitek test tubes with each of the above QC organisms. Dispense 3 mL of saline into each tube.
4	Prepare a 0.5 McFarland standard suspension of the required isolates.
5	Dip a 1 µL loop into the 0.5 McFarland concentration of the QC organism and inoculate the media.
6	Incubate in the O_2 incubator for 16-24 hours.
7	Enter results into TQC. Refer to MIC60110-Entering Quality Control Results into TQC.

INTERPRETATION OF RESULTS:

Escherichia coli ATCC 25922	Pink colonies
Enterococcus faecalis ATCC 29212	Turquoise colonies

Step	Action
Media quality control for StrepB*Select* agar	
1	The following 3 quality control organisms are used to perform QC testing on StrepB*Select* agar: 1. *Streptococcus agalactiae* ATCC 13813 2. *Streptococcus agalactiae* ATCC 12386 3. *Proteus mirabilis* ATCC 25933
2	Divide the agar plate into 3 equal sections and label as follows: 
3	Label 3 Vitek test tubes with each of the above QC organisms. Dispense 3 mL of saline into each tube.
4	Prepare a 0.5 McFarland standard suspension of the required isolates.
5	Dip a 1 µL loop into the 0.5 McFarland concentration of the QC organism and inoculate the media.
6	Incubate in the O_2 incubator for 16-24 hours.
7	Enter results into TQC. Refer to MIC60110-Entering Quality Control Results into TQC.

INTERPRETATION OF RESULTS:

Streptococcus agalactiae ATCC 13813	Turquoise colonies
Streptococcus agalactiae ATCC 12386	Turquoise colonies
Proteus mirabilis ATCC 25933	No growth

Step	Action
Media quality control for LIM broth	
1	The following 2 quality control organisms are used to perform QC testing on Lim broth: 1. *Streptococcus agalactiae* ATCC12386 2. *Escherichia coli* ATCC 25922
2	Label 2 Vitek test tubes with each of the above QC organisms. Dispense 3 mL of saline into each tube.
3	Prepare a 0.5 McFarland standard suspension of all required isolates.
4	Dip a 1 µL loop into the *S.agalactiae* 0.5 McFarland suspension and then dip into the LIM broth and mix. Using a new 1 µL loop, repeat with the *E.coli* 0.5 McFarland suspension.
5	Loosely cap the LIM broth and incubate in the CO_2 incubator for 18-24 hours.
6	After overnight incubation, using a sterile swab, inoculate Blood agar with the LIM broth. Streak for isolated growth using the whole plate.
7	Incubate in the O_2 incubator for24 hours.

INTERPRETATION OF RESULTS:

S.agalactiae ATCC 12386	Growth of *S.agalactiae* on Blood agar subculture plate
E.coli ATCC 25922	No growth of *E.coli* on Blood agar subculture plate

CROSS-REFERENCES:

- MIC60110-Entering Quality Control Results into TQC

REFERENCES:

1. CLSI. *Quality Control for Commercially Prepared Microbiological Culture Media; Approved Standard—Third Edition.* CLSI document M22-A3. Wayne, PA: Clinical and Laboratory Standards Institute; 2004
2. Bio-Rad MRSA*Select* II agar package insert, 2016/03
3. Bio-Rad VRE*Select* agar package insert, 2015/02
4. Bio-Rad Uri*Select* 4 agar package insert, 2013/11
5. Bio-Rad StrepB*Select* agar package insert, 2009/08

APPROVAL:

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Date

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REVISION HISTORY:

REVISION	DATE	Description of Change	REQUESTED BY
1.0	15 Sep 17	Initial Release	L. Steven
2.0	06 Oct 19	Procedure reviewed	L. Steven
3.0	31 Dec 22	Procedure reviewed and added to NTHSSA policy template.	L. Steven