BACTERIOLOGY PROFICIENCY TESTING PROGRAM

Comprehensive Category

September 8, 2015

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Bacteriology Proficiency Testing Program
GENERAL INFORMATION

The Bacteriology Proficiency Testing Program. Three proficiency testing events are given annually, each consisting of a minimum of five specimens. In order to successfully complete a test event, participating laboratories must achieve a score of 80% or greater. Unsuccessful performance in the testing program is defined as a score of less than 80% on two of three consecutive test events.

Authentication. The presence and identity of the organism(s) in each specimen must be confirmed by at least 80% of the referee or participating laboratories. Referee laboratories are selected from New York State participating laboratories (located throughout the State) with acceptable and reproducible levels of performance.

Grading System. Laboratories are to process proficiency test specimens in the same manner as patient specimens. Thus, laboratories are responsible for identifying test isolates to the same level as performed on patient isolates. If your laboratory speciates an organism on special request, then you must also speciate it in the proficiency test; consider speciation to have been requested on all reportable isolates. In addition, laboratories are not responsible for culturing any test samples from specimen sources which they do not process. Information regarding your laboratory's reporting protocol was provided to us in the questionnaire previously distributed to all laboratories. Any changes in reporting protocol must be received by our office prior to the mailout date for proficiency testing for that information to be considered in grading.

Our testing format is in compliance with Center for Medicare & Medicaid Services guidelines as specified in the regulations of CLIA '88. One-half of our samples require identification of all organisms present. The other half requires that only the pathogenic organism(s) be reported. We recognize the potential for any organism to be pathogenic depending on the clinical condition of the patient. However, our samples are designed so that only well-established pathogens should be reported. Tests are graded in adherence to CMS guidelines, as specified in the regulations of CLIA '88. Each of the specimens receives a score as determined by the following formula:

$$(a + b)/(c + d + e) \times 100\%$$

a = # correct identifications
b = # correct antibiotic susceptibility results (if applicable)
c = # possible identifications
d = # possible antibiotic susceptibility results (if applicable)
e = # additional organisms reported
Grades for each sample are then averaged to determine the final grade for this testing event.

Disclaimer
The use of brand and/or trade names in this report does not constitute an endorsement of the products on the part of the Wadsworth Center or the New York State Department of Health.

Notes of Interest

Reminder
Proficiency test samples must be handled just like patient samples, to the extent possible. If you perform testing using one system on patient samples DO NOT use additional systems on proficiency samples. Several laboratories are reporting the use of multiple systems/methods to identify organisms or perform susceptibility tests. Unless you are using multiple systems on patient samples you must not do so on proficiency samples.
A few laboratories are reporting both an MIC and a zone diameter for susceptibility results. Unless you are testing patient isolates using both a disk diffusion AND MIC method do not test proficiency samples using both methods.

Online Instructions and Worksheets
The instructions and worksheets for Bacteriology proficiency testing are available at the New York State Department of Health, Wadsworth Center website at http://www.wadsworth.org/divisions/infdis/bacti/worksheets.htm. Please bookmark this site to easily find the directions for the mailouts.

Contact information
Please make sure that CLEP has the correct email addresses for your laboratory contact people. On occasion we need to notify you of an issue with a sample and this is done by email.

Bacteriology Questionnaires
Please update your questionnaire whenever there is a change in your laboratory's reporting policy. Proficiency test results are graded in accordance with information on the questionnaire so be certain that this information is accurate. If your questionnaire indicates that your laboratory reports an organism to the species level then you must report to the species level on the proficiency test to receive credit. If you need a copy of your questionnaire for review, please contact our office at 518-474-4177 or email us at bacti@wadsworth.org. **Grades will not be revised due to incorrect information on the questionnaire.**

EPTRS Reporting Tips
When entering results into EPTRS if you can't find what you want in the drop down list you can select "other" and a text box appears for you to type in your response. Make sure you have pop-ups enabled in your browser.

NYS Reportable Disease List
The New York State Reportable Disease List can be found at:
http://www.wadsworth.org/labcert/regaffairs/clinical/commdiseaseguide.pdf

Clinical Laboratory Standards Institute
Labs performing antimicrobial susceptibility testing should be using the latest "CLSI Performance Standards for Antimicrobial Susceptibility Testing" document.

Samples for Remediation
We maintain a limited number of samples for remediation purposes. If your laboratory had difficulty isolating or identifying the organisms in a sample you can contact us after the event for additional samples. Contact us either by email or phone and provide your PFI number and the sample(s) needed. They will be shipped to you within a week.

New email address
The Bacteriology proficiency testing program has a new email address – BactiPTP@health.ny.gov

September 2015 Test Event

Number of Participating Laboratories: 182

Grade Distribution		
Score	**Number**	**Percent**
100%	146	80
90 – 99%	13	7
80 – 89%	19	10
<80%	4	2

BACTERIOLOGY - COMPREHENSIVE
September 8, 2015

ANSWER KEY

Specimen Number 1 - Stool (Pathogens only)
Shigella sonnei

Specimen Number 2 – Tracheal aspirate (Pathogens only)
Haemophilus influenzae

Specimen Number 3 – Wound - Aerobic / Anaerobic (All organisms)
Bacteroides fragilis
Enterococcus faecalis

Specimen Number 4 – Joint fluid (Pathogens only) and Antibiotic Susceptibility
Streptococcus pneumoniae
Susceptibility to: Erythromycin – resistant
TMP/SMX – resistant

Specimen Number 5 – Blood (Pathogens only)
Salmonella serogroup B

***Chlamydia* Direct Detection – Urine/Cervix**
Positive for *Chlamydia trachomatis*

Group A *Streptococcus* Direct Antigen Detection - Throat
Positive for Group A *Streptococcus*

Specimen Number 1 - Stool (Pathogens Only)

Accepted responses – *Shigella sonnei,* Group D, *Shigella* species
Other organisms included: *Escherichia coli, Citrobacter freundii*

Results reported for specimen # 1

Report	**Method**	**# Labs**
Shigella sonnei, group D	bioMerieux Vitek 2 GN	48
	Siemens (Dade Behring) Negative Combo - any panel	41
	bioMerieux API 20E	11
	BD Phoenix Gram Negative ID	5
	Conventional biochemicals	3
	bioMerieux API Rapid 20E	2
	shigella serotyping	1
	Wellcolex Colour Shigella	1
	Remel RapID ONE	1
Shigella species	bioMerieux Vitek 2 GN	15
	Siemens (Dade Behring) Negative Combo - any panel	11
	bioMerieux API 20E	5
	Conventional biochemicals	1
Haemophilus influenzae	bioMerieux Vitek 2 NH	1
No *Salmonella, Shigella, Campylobacter, Yersinia,* or *E.coli* O157:H7 isolated.	bioMerieux Vitek 2 GN	1
Negative for *Vibrio* and *Yersinia* species		1
No enteric pathogens isolated		13
Specimen source not tested		20

Additional organisms reported		
Escherichia coli	bioMerieux Vitek 2 GN	1
	MALDI-TOF Mass Spectrometry (not specified)	1
	Remel RapID ONE	1
Citrobacter freundii	Remel RapID ONE	1
	bioMerieux Vitek MS	1
	MALDI-TOF Mass Spectrometry (not specified)	1

Specimen Number 2 – Tracheal aspirate (Pathogens only)

Accepted response –*Haemophilus influenzae*
Other organism included: *Streptococcus mitis*

Results reported for specimen # 2

Report	Method	# Labs
Haemophilus influenzae	Remel RapID NH	52
	bioMerieux Vitek 2 NH	31
	Conventional biochemicals	25
	Siemens (Dade Behring) MicroScan HNID	15
	bioMerieux API NH	14
	bioMerieux Vitek MS MALDI-TOF	9
	MALDI-TOF Mass Spectrometry (not specified)	5
	BD BBL Haemophilus ID Quad	3
	Siemens (Dade Behring) Negative Combo - any panel	1
	Polymerase chain reaction	1
	Haemophilus QUAD plate	1
	BVX disks	1
	Bruker MALDI-TOF Microflex Biotyper	3
Haemophilus influenzae b	Siemens (Dade Behring) MicroScan HNID	1
Haemophilus species	Conventional biochemicals	1
Presumptive *Haemophilus* species	Not given	1
Haemophilus parainfluenzae	Siemens (Dade Behring) MicroScan HNID	1
Specimen source not tested		11
No pathogens isolated	Conventional biochemicals	1
Growth, specimen would be referred		1
Shigella sonnei, group D	bioMerieux Vitek 2 GN	1
Streptococcus mitis	MALDI-TOF Mass Spectrometry (not specified)	1
Strep viridans group	Conventional biochemicals	1

Additional organisms reported		
Streptococcus mitis	Siemens (Dade Behring) Positive Combo - any panel	1
Streptococcus mitis/Streptococcus oralis	bioMerieux Vitek 2 GP	1
Alpha-hemolytic *Streptococcus*	Conventional biochemicals	2

Specimen Number 3 – Wound - Aerobic/Anaerobic (All organisms)

Accepted responses - *Bacteroides fragilis, Bacteroides fragilis* group
Enterococcus faecalis

Results reported for specimen # 3

Report	Method	# Labs
Bacteroides fragilis	Remel RapID ANA II	64
	bioMerieux Vitek 2 ANC	31
	Siemens (Dade Behring) MicroScan Rapid Anaerobe	13
	bioMerieux API 20A	11
	bioMerieux Vitek MS MALDI TOF	7
	MALDI-TOF Mass Spectrometry (not specified)	6
	Bruker MALDI-TOF Microflex Biotyper	2
	bioMerieux Vitek 1 ANI	1
	bioMerieux API Rapid ID 32A	1
	Conventional biochemicals	1
	BD BBL Crystal Anaerobe	1
	Not given	1
Bacteroides fragilis group	Conventional biochemicals	5
	Remel RapID ANA II	4
	bioMerieux Vitek MS MALDI TOF	2
	bioMerieux API 20A	1
	bioMerieux Vitek 2 ANC	1
	MALDI-TOF Mass Spectrometry (not specified)	1
Bacteroides species	Remel RapID ANA II	3
	bioMerieux API 20A	2
	bioMerieux Vitek 2 ANC	2
	Conventional biochemicals	2
	Siemens (Dade Behring) MicroScan Rapid Anaerobe	1
Anaerobic gram negative bacilli		2
Anaerobe not tested for the source		1
Growth, specimen would be referred		1
Bacteroides caccae	Remel RapID ANA II	1
Prevotella species	bioMerieux API 20A	1
	Remel RapID ANA II	1
No anaerobe reported		7
Specimen source not tested		4
Enterococcus faecalis	bioMerieux Vitek 2 GP	66
	Siemens (Dade Behring) Positive Combo - any panel	60
	MALDI-TOF Mass Spectrometry (not specified)	7
	bioMerieux Vitek MS MALDI TOF	7
	bioMerieux API 20 Strep	5
	Conventional biochemicals	4
	Bruker MALDI-TOF Microflex Biotyper	3
	BD Phoenix Gram Positive ID	2
	Remel RapID STR	1

	BD BBL Crystal Rapid Gram Positive	1
Enterococcus species	Conventional biochemicals	17
	bioMerieux Vitek 2 GP	2
	Siemens (Dade Behring) Positive Combo - any panel	1
Growth, specimen would be referred		1
Specimen source not tested		4

Additional organisms reported		
Escherichia coli	Siemens (Dade Behring) Negative Combo - any panel	1
Prevotella species	bioMerieux Vitek 2 ANC	1

Specimen Number 4 – Joint fluid (Pathogens only) and Antibiotic susceptibility

Accepted response – *Streptococcus pneumoniae*
Erythromycin – resistant
Trimethoprim/sulfamethoxazole – resistant

Results reported for specimen # 4

Report	**Method**	**# Labs**
Streptococcus pneumoniae	Conventional biochemicals	88
	bioMerieux Vitek 2 GP	48
	Siemens (Dade Behring) Positive Combo - any panel	14
	bioMerieux Vitek MS MALDI TOF	8
	BD BBL Pneumoslide	5
	MALDI-TOF Mass Spectrometry (not specified)	3
	BD Phoenix Gram Positive ID	2
	bioMerieux API 20 Strep	2
	Bruker MALDI-TOF Microflex Biotyper	2
	BD BBL Crystal Rapid Gram Positive	1
	Remel RapID STR	1
Alpha-hemolytic *Streptococcus*	MALDI-TOF Mass Spectrometry (not specified)	1
Growth, specimen would be referred		1
Specimen source not tested		5

Susceptibility testing results

Erythromycin				
Result	**System**	**# Labs**	**Zone Size**	**MIC**
Resistant	MicroScan	38		>0.5
		1		>=2.0
		1		>=0.5
		1		=12
	bioMerieux Vitek 2	13		=2
		10		=4
		6		>=1
		1		>=8
		1		>1
	E-test	4		=4
		4		=6
		3		=3.0
		2		8.0
		1		>=1
		1		=16
		1		=2
	BD Phoenix	1		4
		1		>4.0
	Agar dilution	1		>0.5
	Broth dilution MIC	1		=2.0
	Broth Microdilution	1		=4
	In house prepared frozen MIC	1		=4
	MSTRP+1	1		>0.5
	Trek Sensititre	2		>=2
		1		>2
	Not given	1		>=1
	Disk diffusion	10	12	
		6	11	
		4	10	
		3	13	
		3	15	
		2	14	
		1	6	
		1	6	
		1	8	
		1	Not given	
		1	7	
		1	0	
Intermediate	bioMerieux Vitek 2	4		=2
	MicroScan	1		0.5
	Disk diffusion	1	18	
No Interpretation	bioMerieux Vitek 2	1		>1
Susceptible	Disk diffusion	1	Not given	
		1	20	
Test not performed		35		
Do not perform susceptibility tests		4		

TMP/SMX				
Result	**System**	**# Labs**	**Zone Size**	**MIC**
Resistant	MicroScan	32		>2/38
		2		>=2/38
		1		>3/38
	bioMerieux Vitek 2	25		=160
		10		=80
		1		>8/152
		1		=8/152
	E-test	3		4.0
		1		=24.0
		1		=6
		1		=3.0
		1		=60
		1		>=4/76
		1		=12
		1		=2.0
	Trek Sensititre	2		=4
	Trek Sensititre	1		>=4/76
	BD Phoenix	1		>2/38
	Broth dilution MIC	1		=8.0
	Broth Microdilution	1		>=4/76
	In house prepared frozen MIC	1		=8/152
	MSTRP+1	1		>2/38
	Not given	1		160
	Disk diffusion	10	6	
		8	0	
		6	8	
		4	7	
		1	12	
		1	9	
		1	10	
		1	11	
		1	15	
		1	Not given	
Intermediate	E-test	1		=3
		1		=2.0
	MicroScan	4		=2/38
	Agar dilution	1		=2/38
Susceptible	BD Phoenix	1		<1
	MicroScan	1		<=0.25/4.7
Test not performed on organism		43		
Do not perform susceptibility tests		4		

Specimen Number 5 – Blood (Pathogens only)

Accepted responses – *Salmonella* serogroup B, *Salmonella* species, *Salmonella* serotype Typhimurium

Results reported for specimen # 5

Report	Method	# Labs
Salmonella serogroup B	bioMerieux Vitek 2 GN	22
	Siemens (Dade Behring) Negative Combo - any panel	19
	bioMerieux API 20E	8
	BD Phoenix Gram Negative ID	2
	MALDI-TOF Mass Spectrometry (not specified)	2
	Conventional biochemicals	2
	Wellcolex Colour *Salmonella*	2
	Bruker MALDI-TOF Microflex Biotyper	1
	Difco *Salmonella* Antisera	1
	bioMerieux Vitek MS MALDI TOF	1
Salmonella serotype Typhimurium	Polymerase chain reaction	1
Salmonella species	bioMerieux Vitek 2 GN	43
	Siemens (Dade Behring) Negative Combo - any panel	30
	bioMerieux API 20E	6
	bioMerieux Vitek MS MALDI TOF	5
	MALDI-TOF Mass Spectrometry (not specified)	3
	bioMerieux API Rapid 20E	1
	bioMerieux Vitek 1 GNI +	1
	Remel RapID ONE	1
	BD Phoenix Gram Negative ID	1
	Bruker MALDI-TOF Microflex Biotyper	1
	BD BBL polyvalent antisera	1
Salmonella species, not typhi	Siemens (Dade Behring) Negative Combo - any panel	6
	Conventional biochemicals	2
	bioMerieux Vitek MS MALDI TOF	3
	bioMerieux API 20E	1
	Bruker MALDI-TOF Microflex Biotyper	1
Salmonella group	bioMerieux Vitek MS MALDI-TOF	1
Gram negative bacillus		1
Salmonella serogroup C1	Wellcolex Colour *Salmonella*	1
Salmonella serogroup D	bioMerieux Vitek MS MALDI TOF	1
Salmonella group C	Siemens (Dade Behring) Negative Combo - any panel	1
Specimen source not tested		9

Chlamydia – Urine/cervical swab for Direct Detection Methods

This sample could be tested as a urine or a cervical swab in transport media. It was provided to laboratories that test for *Chlamydia* using molecular detection methods. This sample was not suitable for laboratories performing antigen detection for *Chlamydia* or *Chlamydia* culture.

This sample was positive for *Chlamydia trachomatis* and was reported as such by 98% of the participating laboratories that tested this specimen.

Test kits used by laboratories processing this specimen

Result	Method	# Labs
Positive	Gen-Probe Aptima Combo 2	49
	Cepheid Xpert CT/NG	19
	BD ProbeTec ET CT or CT/GC	10
	Roche Diagnostics COBAS AMPLICOR CT/NG	4
	BD Viper System	2
	Roche Diagnostics AMPLICOR CT/NG	1
	Digene Hybrid Capture hc2 CT/GC	1
	Laboratory Developed Test	1
	Roche Diagnostics Cobas 4800 CT/NG	1
Negative	BD ProbeTec ET CT or CT/GC	1
	Gen-Probe Aptima Combo 2	1

Group A Streptococcus – Throat Swab for Direct Detection Methods

This simulated throat swab was provided to all laboratories that process specimens for Group A *Streptococcus* using direct detection techniques.

This specimen was reported as positive for Group A *Streptococcus* by 100% of the participating laboratories that processed it.

Test kits used by laboratories processing this specimen

Method	**# Labs**
Sekisui (Genzyme) OSOM Ultra Strep A	16
Acceava Strep A	15
BD Chek Group A Strep	8
Quidel QuickVue + Strep A	8
Cardinal Health SP Brand Strep A Dipstick	8
Sekisui (Genzyme) OSOM Strep A Test	7
BD Directigen EZ Strep A	6
Meridian Bioscience ImmunoCard STAT Strep A	5
Abbott Signify Strep A Dipstick	4
Fisher Sure-Vue Strep A Lateral Flow Test	3
Clearview Exact Strep A Dipstick	3
Stanbio QuStick Strep A Rapid Strip Test	3
Fisher Sure-Vue Signature Strep A Test	3
Quidel Sofia Strep A FIA	2
BD Veritor System For Rapid Detection of Group A Strep	2
Signify Strep A Dipstick	2
Quidel QuickVue Inline Strep A	1
Beckman Coulter Icon SC Strep A	1
Beckman Coulter Icon DS Strep A	1
Alere BinaxNow Strep A Card	1
Polymedco Poly Stat Strep A	1
GenProbe Group A Strep Direct	1
Quidel QuickVue Dipstick Strep A	1

BACTERIAL IDENTIFICATION BY PARTICIPATING LABORATORIES

Sample/Report	# Labs	%
SPECIMEN NUMBER 1 (Stool)		
Shigella sonnei	113	70.2
Shigella species	32	19.9
Haemophilus influenzae	1	0.6
No *Salmonella, Shigella, Campylobacter, Yersinia,* or *E.coli* O157:H7 isolated.	1	0.6
Negative for *Vibrio* and *Yersinia* species	1	0.6
No enteric pathogens isolated	13	8.1
Specimen source not tested	20	
SPECIMEN NUMBER 2 (Tracheal aspirate)		
Haemophilus influenzae	161	94.8
Haemophilus influenzae b	1	0.6
Haemophilus species	1	0.6
Presumptive *Haemophilus* species	1	0.6
Haemophilus parainfluenzae	1	0.6
No pathogens isolated	1	0.6
Growth, specimen would be referred	1	0.6
Shigella sonnei, group D	1	0.6
Streptococcus mitis	1	0.6
Strep viridans group	1	0.6
Specimen source not tested	11	
SPECIMEN NUMBER 3 (Wound)		
Anaerobe		
Bacteroides fragilis	139	81.3
Bacteriodes fragilis group	14	7.9
Bacteriodes species	10	5.6
Anaerobic gram negative bacilli	2	1.1
Anaerobe not tested for the source	1	0.6
Growth, specimen would be referred	1	0.6
Bacteroides caccae	1	0.6
Prevotella species	2	1.1
No anaerobe reported	7	4.0
Aerobe		
Enterococcus faecalis	156	88.1
Enterococcus species	20	11.3
Growth, specimen would be referred	1	0.6
Specimen source not tested	4	
SPECIMEN NUMBER 4 (Joint fluid)		
Streptococcus pneumoniae	174	98.9
Alpha-hemolytic *Streptococcus*	1	0.6
Growth, specimen would be referred	1	0.6
Specimen source not tested	5	
SPECIMEN NUMBER 5 (Blood)		
Salmonella serogroup B	60	34.9
Salmonella species	94	54.7
Salmonella species, not Typhi	13	7.6
Salmonella seroptype Typhi,murium	1	0.6
Salmonella group	1	0.6
Gram negative bacillus	1	0.6
Salmonella serogroup C1	1	0.6

Salmonella serogroup D	1	0.6
Salmonella group C	1	0.6
Specimen source not tested	9	

***CHLAMYDIA* – DIRECT DETECTION (Urine/cervical swab)**		
Result	**# Labs**	**%**
Positive for *Chlamydia trachomatis*	88	98
Negative for *Chlamydia trachomatis*	2	2
GROUP A *STREPTOCOCCUS* - DIRECT DETECTION (Throat)		
Positive for Group A *Streptococcus*	102	100