

**Mycobacteriology Proficiency Testing Program
Event 12-1 Results Summary, March 2012**

Samples 1242, 1243, 1245 contained *Mycobacterium tuberculosis*. Sample 1241 contained *Mycobacterium bovis* BCG. Sample 1244 contained *Mycobacterium fortuitum*.

I. Microscopy

EXPECTED RESULTS:

	Acid Fast Bacilli
1211	Absent
1212	Absent
1213	Present
1214	Present
1215	Present

SCORES FOR MICROSCOPY (106 PARTICIPANTS):

	Comprehensive Labs	Restricted Labs	Smears Only Labs	Total
100%	19	43	30	92
80-89%	0	3	5	8
<80%	0	3	3	6

	1211	1212	1213	1214	1215
Correct answer	106	104	105	103	94
Incorrect answer	0	2	1	3	12

STAINING METHOD

Carbol Fuschin: 48 laboratories (45.3%)

Flurochrome: 37 laboratories (34.9%)

Carbol Fuschin + Flurochrome: 21 laboratories (19.8%)

II. Identification/Drug Susceptibility

SCORES FOR ID

	Comprehensive Labs	Restricted Labs
100%	17	34
90-99%	0	0
80-89%	2	9
< 80%	0	5

SCORES FOR SUSCEPTIBILITY

	Comprehensive Labs
100%	18
90-99%	1

One laboratory was exempt

OVERALL SCORES (MICROSCOPY, ID AND SUSCEPTIBILITY)

	Comprehensive Labs	Restricted Labs
100%	16	27
90-99%	3	13
80-89%	0	2
< 80%	0	6

RESULTS FOR 1241 (*Mycobacterium bovis* BCG; PZA^R)

Identification

Result*	Method	Restricted	Comprehensive
<i>M. tuberculosis</i> complex	GenProbe/Accuprobe	29	6
	HPLC		2
	PCR Assay	1	
	Conventional Biochemicals		
<i>M. tuberculosis</i> complex, not <i>M. tuberculosis</i>	GenProbe/Accuprobe	3	1
	Conventional Biochemicals		1
<i>M. bovis</i>	GenProbe/Accuprobe & Conventional Biochemicals	1	2
	Conventional Biochemicals		2
<i>M. bovis</i> BCG	GenProbe/Accuprobe & Conventional Biochemicals	1	2
	Conventional Biochemicals		2
	PCR Assay		1
<i>M. tuberculosis</i>	GenProbe/Accuprobe & Conventional Biochemicals	3	
	Conventional Biochemicals		
	PCR Assay		
	DNA Sequencing		
Non-tuberculous Mycobacteria	GenProbe/Accuprobe	1	
	Conventional Biochemicals	1	
No growth		5	
Acid Fast Bacilli	Microscopy	3	

Susceptibility

Antibiotic	Results	# Labs
EMB1	Susceptible	19
INH1	Susceptible	19
PZA	Resistant	15
	Not offered	4
RIF	Susceptible	19
SM1	Susceptible	17
	Not offered	2

*: Green: acceptable answer
 Red: unacceptable answer

RESULTS FOR 1242 (*Mycobacterium tuberculosis* INH^R, EMB^R)

Identification

Result*	Method	Restricted	Comprehensive
<i>M. tuberculosis</i> complex	GenProbe/Accuprobe	33	4
	HPLC		2
	PCR Assay		
	Conventional Biochemicals		
<i>M. tuberculosis</i>	Conventional Biochemicals		4
	GenProbe/Accuprobe & Conventional Biochemicals	8	6
	PCR Assay	1	1
	GenProbe/Accuprobe & PCR Assay		1
	DNA Sequencing		
<i>M. africanum</i>	Conventional Biochemicals		1
	GenProbe/Accuprobe & Conventional Biochemicals	1	
Acid Fast Bacilli	Microscopy	5	

Susceptibility

Antibiotic	Results	# Labs
EMB1	Susceptible*	14
	Resistant*	5
EMB2	Susceptible	2
	Resistant	3
	Not offered	14
INH1	Resistant	19
INH2	Resistant	14
	Not offered	5
PZA	Susceptible*	8
	Resistant*	7
	Not offered	4
RIF	Susceptible	19
SM1	Susceptible	16
	Resistant	1
	Not offered	2
SM2	Susceptible	7
	Not offered	12

* Consensus was not reached for EMB1 and PZA results. Expected results were PZA^S and EMB1^R. This emphasizes the issues frequently encountered with PZA and EMB susceptibility testing with lack of reliability and reproducibility.

RESULTS FOR 1243 (*Mycobacterium tuberculosis* pan-susceptible)

Identification

Result*	Method	Restricted	Comprehensive
<i>M. tuberculosis</i> complex	GenProbe/Accuprobe	33	4
	HPLC		2
	PCR Assay		
	Conventional Biochemicals		
<i>M. tuberculosis</i>	Conventional Biochemicals		4
	GenProbe/Accuprobe & Conventional Biochemicals	8	6
	PCR Assay	1	1
	GenProbe/Accuprobe & PCR Assay		1
	DNA Sequencing		
	GenProbe/Accuprobe & Conventional Biochemicals	1	
Acid Fast Bacilli	Microscopy	5	

Susceptibility

Antibiotic	Results	# Labs
EMB1	Susceptible	19
INH1	Susceptible	19
PZA	Susceptible	15
	Not offered	4
RIF	Susceptible	19
SM1	Susceptible	17
	Not offered	2

*: Green: acceptable answer
 Red: unacceptable answer

RESULTS FOR 1244 (*Mycobacterium fortuitum*)

Identification

Result*	Method	Restricted	Comprehensive
<i>M. fortuitum</i>	DNA Sequencing	1	4
	HPLC	1	2
	Conventional Biochemicals	2	7
M. fortuitum group	HPLC		1
	DNA Sequencing	1	2
	Conventional Biochemicals	6	1
<i>M. chelonae</i>	Conventional Biochemicals	1	
Non-tuberculous Mycobacteria	GenProbe/Accuprobe	29	2
	Conventional Biochemicals	2	
Acid Fast Bacilli	Microscopy	5	

1 laboratory could not generate growth

*: Green: acceptable answer

Red: unacceptable answer

RESULTS FOR 1245 (*Mycobacterium tuberculosis* RIF^R)

Identification

Result*	Method	Restricted	Comprehensive
<i>M. tuberculosis</i> complex	GenProbe/Accuprobe	33	4
	HPLC		2
	PCR Assay		
	Conventional Biochemicals		
<i>M. tuberculosis</i>	Conventional Biochemicals		4
	GenProbe/Accuprobe & Conventional Biochemicals	8	6
	PCR Assay	1	1
	GenProbe/Accuprobe & PCR Assay		1
	DNA Sequencing		
	GenProbe/Accuprobe & Conventional Biochemicals	1	
<i>M. bovis</i> BCG	GenProbe/Accuprobe & Conventional Biochemicals		1
Acid Fast Bacilli	Microscopy	5	

Susceptibility

Antibiotic	Results	# Labs
EMB1	Susceptible	19
INH1	Susceptible	19
PZA	Susceptible	18
	Not offered	1
RIF	Resistant	19
SM1	Susceptible	16
	Resistant	1
	Not offered	2

*: Green: acceptable answer
 Red: unacceptable answer