

## ACID FAST BACILLUS

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A total of 16 microscopy slides are dispatched to participating laboratory in four quarterly survey exercises (four slides per quarter). Participants are required to stain, microscopically examine and report the presence/absence of acid fast bacilli (AFB) as well as the staining method(s) before the due dates.

Scores of “two” and “zero” is assigned to correct and incorrect/nil result, respectively. Falsely positive and negative results are considered as major errors.

Quarterly survey report encloses results submitted by the participating laboratories and the intended results together with their respective score. “NIL RETURN” indicates no return of test results. A year-end report displays the total scores and the successful rate of participating laboratory in the correct identification of AFB.

Table 1 shows the summary of control smears.

<b>Summary of Control Smears - 2009</b>				
Control Smears	Total Numbers	Number of Correct Returns	Number of Incorrect Returns	Accuracy (%)
Overall Total	508	505	3	99.4%
Positive Control	412	411	1	99.8%
Negative Control	96	94	2	97.9%

Table 2 shows the break-down.

<b>Detail Break-down of Control Smears - 2009</b>					
<b>Smear ID</b>	<b>Intended Result</b>	<b>Numbers Issued</b>	<b>Numbers of Correct Returns</b>	<b>Numbers of Incorrect Returns</b>	<b>Percentage of Correct Returns</b>
X23	AFB Present	63	63	0	100.0%
X24	AFB Present	127	127	0	100.0%
X25	AFB Present	127	126	1	99.2%
X26	AFB Present	95	95	0	100.0%
X27	AFB Absent	96	94	2	97.9%
	Overall Total	508	505	3	99.4%
	Positive Control	412	411	1	99.8%
	Negative Control	96	94	2	97.9%

Table 3 shows the summary of participants' performance.

<b>Summary of Participants' Performance - 2009</b>	
Number of participants	32
Number of participants with 100% return	31 (96.9%)
Range of score of participants	94% - 100%
Number of participants with 100% score	30 (96.8%)

Table 4 shows the break-down.

<b>Detailed Break-down of Participants' Performance – 2009</b>						
Lab Code	Number of Despatches	Number of Returns	% Return	Possible Score	Actual Score	% Score
002	4	4	100%	32	32	100%
029	4	4	100%	32	32	100%
062	4	4	100%	32	32	100%
136	4	4	100%	32	32	100%
144	4	4	100%	32	32	100%
168	4	4	100%	32	32	100%
218	4	4	100%	32	32	100%
263	4	4	100%	32	32	100%
336	4	3	75%	24	24	100%
354	4	4	100%	32	32	100%
361	4	4	100%	32	32	100%
366	4	4	100%	32	32	100%
416	4	4	100%	32	32	100%
456	4	4	100%	32	32	100%
495	4	4	100%	32	32	100%
508	4	4	100%	32	32	100%
523	4	4	100%	32	32	100%
609	4	4	100%	32	32	100%
621	4	4	100%	32	32	100%
626	4	4	100%	32	32	100%
642	4	4	100%	32	32	100%
658	4	4	100%	32	32	100%
668	4	4	100%	32	30	94%
683	4	4	100%	32	32	100%
714	4	4	100%	32	30	94%
737	4	4	100%	32	32	100%
762	4	4	100%	32	32	100%
821	4	4	100%	32	32	100%
922	4	4	100%	32	32	100%
947	4	4	100%	32	32	100%
963	4	4	100%	30	30	100%
997	4	4	100%	32	32	100%

Table 5 shows the summary of staining methods used by the participants

Staining method	2009-1	2009-2	2009-3	2009-4
Fluorescence only	2	2	2	2
ZN only	19	19	19	19
Fluorescence and ZN	10	11	11	11

### Special Comment

An investigation was conducted on a returned survey material with a false-negative result in the fourth survey exercise. The cause of the false negativity could not be defined. The panel advised the participant to pass glass slides over a Bunsen flame in a way to prevent of any material loss pertaining to the likely accumulated moisture before staining.

### References:

1. Chadwick MC. Institute of Medical Laboratory Sciences Monographs: Mycobacteria. Wright PSG 1982;47-49
2. Kent PT, Kubica GP. Public Health Mycobacteriology. A guide for the level III laboratory. US Department of Health and Human Services, Public Health Service, Centers for Disease Control 1985;57-59.