ACID FAST BACILLUS

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A total of 16 survey slides were dispatched to participating laboratories in four quarterly survey exercises (four slides per quarter) in 2012. Participants were required to stain and examine for acid fast bacilli (AFB), and report the results and the staining method(s) to Hong Kong Institute of Medical Laboratory Sciences Quality Assurance Programme before the due dates.

Survey results returned by participating laboratories were analyzed. Scores of "two" and "zero" were assigned to correct and incorrect result or nil return, respectively. Survey reports were issued quarterly to the participating laboratories documenting the sample identities, intended results, reported results, scores and staining methods used. Late and nil return were marked on the individual reports of participating laboratories. False positivity and false negativity are considered as major errors. Year-end summaries of the total scores and the successful rate of individual laboratories in identifying the micro-organisms were compiled and released.

Table 1 shows the summary of control smears in year 2012.

Control smears	Total Numbers	Number of Correct Returns	Number of Incorrect Returns	Accuracy (%)
Overall total	528	522	6	98.9
Positive control	396	392	4	99
Negative control	132	130	2	98.5

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Table 2 shows the break-down of control slides used in 2012.

Smear ID	Intended Result	Numbers Issued	Numbers of Correct Returns	Numbers of Incorrect Returns	Correct Returns (%)
X28	AFB Present	66	64	2	97
X33	AFB Absent	132	130	2	98.5
X34	AFB Present	33	33	0	100
X35	AFB Present	33	32	1	97
X36	AFB Present	99	99	0	100
X37	AFB Present	99	99	0	100
X39	AFB Present	66	65	1	99.7
	Overall total	528	522	6	98.9
	Positive control	396	392	4	99
	Negative control	132	130	2	98.5

Table 3 shows the summary of participants' performance in year 2012.

Participants	n (%)
Number of participants completing four survey exercises	33 (100%)
Number of participants with fully matched results	28 (84.8%)
Range of correct results derived from participants	88% - 100%

Table 4 shows the break-down of the performance of participants in year 2012.

Participant	Expected Score	Observed Score	Correctness (%)
002	32	30	94
029	32	30	94
062	32	32	100
096	32	30	94
136	32	32	100
144	32	32	100
168	32	32	100
218	32	32	100
263	32	32	100
275	32	32	100
336	32	32	100
354	32	32	100
361	32	32	100
366	32	32	100
416	32	32	100
456	32	32	100
495	32	32	100
508	32	32	100
523	32	28	88
609	32	32	100
621	32	32	100
626	32	32	100
658	32	32	100
668	32	32	100
683	32	32	100
714	32	32	100
737	32	32	100
762	32	32	100
821	32	32	100
922	32	32	100
947	32	30	94
963	32	32	100
997	32	32	100

Table 5 shows the statistics of participants with respect to the staining methods in 2011.

Number of Participants	**First**	**Second**	**Third**	**Fourth**
Fluorescence Staining only	2	2	2	2
ZN only	15	15	16	17
Fluorescence Staining and ZN	11	11	11	12

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.

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