



**DETERMINATION OF METALS
(Cd, Fe, Pb, Zn)
IN BOVINE LIVER**

**PROFICIENCY TESTING
PROGRAM
APLAC T077**

FINAL REPORT

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Summary of Results

1. The aim of the program is to evaluate the performance of laboratories in analyzing two essential (iron and zinc) and two toxic (cadmium and lead) elements in bovine liver through interlaboratory comparison. The program was organised by the Government Laboratory of Hong Kong (GLHK), in collaboration with Hong Kong Accreditation Service (HKAS), and under the auspices of the Asia-Pacific Laboratory Accreditation Co-operation (APLAC).
2. A total of 38 laboratories from 23 economies registered for the program and 37 laboratories returned the results to the organizer within the scheduled timeline.
3. Assigned values for the four metal analytes in bovine liver were based on the consensus mean from participants' data calculated using robust statistics. Standard deviations for performance assessment (sd) were derived from Horwitz Equation, $sd = 0.02 \times C^{0.8495}$ where C is the consensus mean in mass fraction.
4. Participants' z-scores on the four metal analytes are summarized as follows:

z-Score	Number of Participants (Percentage)			
	CADMIUM	IRON	LEAD	ZINC
$ z \leq 2$	35 (97.2%)	26 (83.9%)	31 (86.1%)	26 (81.3%)
$2 < z < 3$	1 (2.8%)	1 (3.2%)	3 (8.3%)	4 (12.5%)
$ z \geq 3$	0 (0%)	4 (12.9%)	2 (5.6%)	2 (6.3%)
Total:	36 (100%)	31 (100%)	36 (100%)	32 (100%)