ASSAY OF CHINESE MATERIA MEDICA

PROFICIENCY TESTING SCHEME

GLHK PT 22-04

FINAL REPORT SUMMARY

24 Nov 2023

Summary of Results

1. The proficiency testing scheme (GLHK PT 22-04) was organised by the Government Laboratory of Hong Kong (GLHK) with the support from the Hong Kong Council for Testing and Certification (HKCTC). The main objectives of the proficiency testing scheme are (i) to assist participating laboratories in demonstrating competence on the analysis of two selected CMMs, namely Atractylodis Macrocephalae Rhizoma (白朮) and Chuanxiong Rhizoma (川芎) as decoction pieces (飲片) according to the corresponding monographs of the *2020* edition of *Chinese Pharmacopoeia (CP 2020)*; and (ii) to identify problems and opportunities for improvement.

2. A total of 11 local laboratories registered for the programme. Participants were requested to determine the mass fractions (%) of chemical marker(s), extractives and water content in the two CMMs. The number of results returned for each CMM are summarised in Table 1.

    Table 1: Number of results returned for each CMM

CMM	Sample type	Water content	Chemical marker(s)	Extractives
Atractylodis Macrocephalae Rhizoma (白朮)	Decoction Pieces (飲片)	8	N/A	7
Chuanxiong Rhizoma (川芎)	Decoction Pieces (飲片)	10	10	N/A

    N/A   Not applicable

3. The assigned values and standard deviation for proficiency assessment (σ_{pt}) for the chemical marker(s), extractives and water content were derived as the robust average and robust standard deviation of the participants' results using robust statistics according to the procedures outlined in Annex C of ISO 13528:2022.

4. The z-scores of the participants for the water content are summarised as follows:

Water content	Number of participants (Percentage)		
	$|z| \leq 2.0$	$2.0 < |z| < 3.0$	$|z| \geq 3.0$
Atractylodis Macrocephalae Rhizoma (白朮)	87.5	12.5	0.0
Chuanxiong Rhizoma (川芎)	100	0.0	0.0

5. The z-scores of the participants for the mass fraction of each measurand (as-received basis) are summarised as follows:

Measurand (as-received basis)	CMM	Number of participants (Percentage)		
		$|z| \leq 2.0$	$2.0 < |z| < 3.0$	$|z| \geq 3.0$
Extractives	Atractylodis Macrocephalae Rhizoma (白朮)	85.7	0.0	14.3
Ferulic Acid	Chuanxiong Rhizoma (川芎)	100	0.0	0.0

6. The z-scores of the participants for the mass fraction of each measurand (dry-mass basis) are summarised as follows:

Measurand (dry-weight basis)	CMM	Number of participants (Percentage)		
		$|z| \leq 2.0$	$2.0 < |z| < 3.0$	$|z| \geq 3.0$
Extractives	Atractylodis Macrocephalae Rhizoma (白朮)	85.7	0.0	14.3
Ferulic Acid	Chuanxiong Rhizoma (川芎)	100	0.0	0.0

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