The Inter-laboratory Comparison Report

The inter-laboratory studies

IFCC Ring Trials for Reference Laboratories are organized on behalf of the IFCC by the Reference Institute of Bioanalysis (RfB) of the German Society of Clinical Chemistry and Laboratory Medicine (DGKL). The reported results for RELA 2014-2017 samples were retested with use of the remaining samples but not from the participation in RELA comparisons. When comparing our RMP results with those obtained with an established RMP via International Federation of Clinical Chemistry and Laboratory Medicine external quality assessment scheme for reference laboratories in laboratory medicine (RELA) samples, we found that the biases ranged from -1.69% to 3.08% against the target values.

Table 1. Results of 17-OHP between the ID-LC-MS/MS procedure established by our laboratory and the different reference laboratories participated in IFCC-RELA for 17-OHP assessment in 2014-2017.

Sample	ID-LC-MS/MS[a] (nmol/L)	LC-MS/MS[b] (nmol/L)	CV%	Relative bias%
2014A	8.167	8.308	0.30	-1.69
2014B	2.396	2.324	1.61	3.08
2015A	5.014	5.144	0.30	-1.99
2015B	6.311	6.428	0.28	-1.81
2016A	2.452	2.409	0.82	1.79
2016B	2.944	2.911	1.29	1.15
2017A	7.583	7.429	0.52	2.08
2017B	12.749	12.610	1.38	1.10

Note: [a]The results obtained from the ID-LC-MS/MS established by our laboratory; [b]The results obtained from the existing reference measurement procedure (ID-LC-MS/MS reference method for 17-OHP used in the Referenzinstitut für Bioanalytik).

Except for the IFCC Ring Trials, we have also participated in the 2020 inter-laboratory study organized by the China National Center for Clinical Laboratory (NCCL), the biases ranged -1.46%from to -3.92% (Table 2). The quality evaluation report was provided in Annex 1.

Table **2**. The measurement results of 17-OHP in the inter-laboratory study organized by the China National Center for Clinical Laboratory (NCCL).

Sample	Measurement results (nmol/L)	Target values (nmol/L)	CV%	Relative bias%
HS202011	3.190	3.320	1.0	-3.92
HS202012	23.245	23.590	2.0	-1.46