

## Draft template for biennial activity report from JCTLM Member organizations

All JCTLM Members are invited to attend the Members' and Stakeholders' Meeting, which is held once every two years, and submit a report of their activities in support of traceability in laboratory medicine over the preceding period.

For that purpose this template document provides guidance to JCTLM Members for drafting their biennial activity report. Organizations are invited to provide the information below for submission to the Executive Committee.

<p><b>Organization:</b> Guangdong Provincial Hospital of Chinese Medicine (GPHCM)</p> <p><b>JCTLM Member status:</b> Stakeholder Member</p> <p><b>Author(s):</b> Xianzhang Huang</p> <p><b>Author(s) email(s):</b> huangxz020@163.com</p> <p><b>Period covered:</b> 2015 – 2017</p>
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### 1. Major achievement(s) in support of standardization in laboratory medicine

#### Reference measurement methods

Analyte	Approach	Matrix
Unconjugated Estriol	ID-LC-MS/MS	Serum
17 $\beta$ -Estradiol	ID-LC-MS/MS	Serum
Urea	ID-LC-MS/MS and Sampson EJ et al., CDC reference method for urea. Clin. Chem., 1980, 26, 816-826.	Serum
Creatinine	ID-LC-MS/MS	Serum
TBIL	Doumas BT et al., reference method for total bilirubin. Clin.Chem., 1985, 31, 1779-1789.	Calibration materials, control specimens and human serum
Glucose	Neese JW et al., CDC Hexokinase reference measurement method for glucose.	Calibration materials, control specimens and human serum
CK	IFCC Primary Reference Procedures for the Measurement of Catalytic Activity Concentrations of CK at 37 °C	High-purity material, Calibration solution, Serum
LDH	IFCC Primary Reference Procedures for the Measurement of Catalytic Activity Concentrations of LDH at 37 °C	High-purity material, Calibration solution, Serum
ALT	IFCC Primary Reference Procedures for the Measurement of Catalytic Activity Concentrations of ALT at 37 °C	High-purity material, Calibration solution, Serum
AST	IFCC Primary Reference Procedures for the Measurement of Catalytic Activity Concentrations of AST at 37 °C	High-purity material, Calibration solution, Serum
GGT	IFCC Primary Reference Procedures for the Measurement of Catalytic Activity Concentrations of GGT at 37 °C	High-purity material, Calibration solution, Serum
AMY	IFCC Primary Reference Procedures for the Measurement of Catalytic Activity Concentrations of AMY at 37 °C	High-purity material, Calibration solution, Serum
ALP	IFCC Primary Reference Procedures for the Measurement of Catalytic Activity Concentrations of ALP at 37 °C	High-purity material, Calibration solution, Serum

RBC	Single channel semi-automatic electronic counting using aperture-impedance principle	Fresh whole blood
WBC	Single channel semi-automatic electronic counting using aperture-impedance principle	Fresh whole blood
Platelet	RBC/Platelet ratio method by flowcytometry Phase contrast microscope counting method	Fresh whole blood
HGB	haemoglobinometry	Fresh whole blood
PCV	microhematocrit method.	Fresh whole blood

#### Calibration (reference) measurement services

Analyte	Approach	Matrix	Code
Unconjugated Estriol	ID-LC-MS/MS	Serum	
Glucose	Neese JW et al., CDC Hexokinase reference measurement method for glucose.	Serum	
TBIL	Doumas BT et al., reference method for total bilirubin. Clin.Chem., 1985, 31, 1779-1789.	Calibration materials, control specimens and human serum	
Urea	Sampson EJ et al., CDC reference method for urea. Clin. Chem., 1980, 26, 816-826.	Serum	
CK	IFCC Primary Reference Procedures for the Measurement of Catalytic Activity Concentrations of CK at 37 °C	High-purity material, Calibration solution, Serum	
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AST	IFCC Primary Reference Procedures for the Measurement of Catalytic Activity Concentrations of AST at 37 °C	High-purity material, Calibration solution, Serum	
GGT	IFCC Primary Reference Procedures for the Measurement of Catalytic Activity Concentrations of GGT at 37 °C	High-purity material, Calibration solution, Serum	
AMY	IFCC Primary Reference Procedures for the Measurement of Catalytic Activity Concentrations of AMY at 37 °C	High-purity material, Calibration solution, Serum	
ALP	IFCC Primary Reference Procedures for the Measurement of Catalytic Activity Concentrations of ALP at 37 °C	High-purity material, Calibration solution, Serum	

#### Publications

Authors	Title	Journal, issue, page
Liqiao Han, Jianbing Wang, Yun Li, Qiaoxuan Zhang, Songbai Zheng, Haibiao Lin, Xianzhang Huang, Junhua Zhuang	Development of reference intervals for serum alkaline phosphatase among adults in Southern China traced to the new IFCC reference measurement procedure	Clin Chem Lab Med 2015,1-3

Qiaoxuan Zhang, Liqiao Han, Jianbing Wang, Haibiao Lin, Peifeng Ke, Junhua Zhuang, Xianzhang Huang	Simultaneous quantitation of endogenous estrone, 17 $\beta$ -estradiol, and estriol in human serum by isotope-dilution liquid chromatography–tandem mass spectrometry for clinical laboratory applications	Analytical and Bioanalytical Chemistry 2017, 409 (10) : 2627-2638
Liqiao Han, Jianbing Wang, Yun Li, Qiaoxuan Zhang, Songbai Zheng, Haibiao Lin, Xianzhang Huang, Junhua Zhuang	Application of New Reference Procedure for ALP Measurement in the Clinical Laboratory.	Clin. Lab. 2015;61:445-452
Yun Li , Jianbing Wang , Xianzhang Huang , Ruili Zeng , Qiaoxuan Zhang , Haibiao Lin ,Liqiao Han, Peifeng Ke , Junhua Zhuang	Matrix Effects in Proficiency Testing Materials Influence the Accurate Measurement of Gamma-Glutamyltransferase Activity.	Clin. Lab. 2016;62:1941-1945
Haibiao Lin, Anping Peng, Jianbing Wang, Hongwei Yang, Liqiao Han, Qiaoxuan Zhang, Xinzhong Wu, Peifeng Ke, Xianzhang Huang	Establishment of reference method for platelet count and application in trueness verification for clinical routine systems	Chinese Journal of Laboratory Medicine, 2015; 33: 932-933.
Hai-biao Lin, Xiao-ting Huang, Qiaoxuan Zhang, Li-qiao Han, Jian-bing Wang, Pei-feng Ke, Xian-zhang Huang, Jun-hua Zhuang	Evaluation of homogeneity in Proficiency Test samples for International Reference Laboratory	Chinese Journal of Laboratory Medicine, 2017; 35(9): 696-699.

## 2. Planned activity(ies) in support of standardization in laboratory medicine

We plan to develop the new measurands by LC-MS/MS: human serum Testosterone, 25-OH Vitamin D, Cystatin C and urinary albumin;

And also we want to develop the new CRMs about human serum ALT, AST, GGT, ALP, TP, TBIL, Unconjugated Estriol and 17 $\beta$ -Estradiol et al. in China.

## 3. Promoting traceability in laboratory medicine

In 2015, we have assigned values of ALT, AST, GGT, ALP, TP and TBIL for Guangdong center for clinical laboratory. And these frozen human serum samples were used for trueness verification of liver function in 45 clinical laboratories in Guangdong Province.

In 2016, we have assigned values of ALT, AST, GGT, ALP, TP and TBIL for Guangdong center for clinical laboratory. And these frozen human serum samples were used for trueness verification of liver function in 53 clinical laboratories in Guangdong Province.

In 2016, we also assigned values of ALT and AST for the master calibrators in Guangzhou Kefang Biotechnology Co., Ltd.

## 4. Reference laboratory networks /collaborations focusing on developing /implementing reference measurement systems

We have taken part in the RELA laboratory networks and China National Center for Clinical Laboratories' Medical reference measurement laboratory quality evaluation. We also organized the Standardization project of Unconjugated Estriol in China, there are ten reference Laboratories have attended this project.

## 5. Open questions and suggestions to be addressed by JCTLM

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Note: The information of this report will be accessible publicly on the relevant JCTLM Members webpage, unless the author of the report states otherwise. In the case the organization does not authorize the publication of the report in part or full, the author will add a statement to clarify which part(s) of the report will /will not be rendered public.