

# AQ2013-06 批次 TSH 檢驗院際品管結果報告

送檢批號：AQ2013-06      調查期間：2013 年 06 月 03 ~ 10 日      參加單位數：21

檢驗單位 代碼	確診醫院 代碼	檢體方 法編碼	檢體試 劑編碼	Sample S1				Sample S2			
				(mIU/L)	D <sup>1</sup>	Z <sup>2</sup>	Da% <sup>3</sup>	(mIU/L)	D <sup>1</sup>	Z <sup>2</sup>	Da% <sup>3</sup>
RH01b	RH01	1	3	7.9	-1.4	-1.9	-63%	1.6	0.4	4.0	139%
RH07b	RH07	1	3	7.9	-1.4	-1.9	-63%	1.5	0.3	3.0	104%
RH14	RH14	1	3	7.5	-1.8	-2.4	-81%	1.4	0.2	2.0	69%
RH15	RH15	1	3	7.7	-1.6	-2.2	-72%	1.5	0.3	3.0	104%
CL009	CL009	1	3	7.7	-1.6	-2.2	-72%	1.4	0.2	2.0	69%
CL010	CL010	1	3	7.5	-1.8	-2.4	-81%	1.4	0.2	2.0	69%
CL012	CL012	1	3	8.0	-1.3	-1.8	-58%	1.7	0.5	5.0	174%
CL013	CL013	1	5	9.3	0.0	0.0	0%	1.0	-0.2	-2.0	-69%
CL014a	CL014	1	3	7.2	-2.1	-2.8	-94%	1.4	0.2	2.0	69%
CL015	CL015	1	3	8.6	-0.7	-0.9	-31%	1.8	0.6	6.0	208%
Median of RIA Group				7.8				1.5			
Range of RIA Group				7.2 – 9.3				1.0 – 1.8			
Robust average <sup>4</sup> of RIA Group				7.9 ( n = 10 )				1.5 ( n = 10 )			
Robust SD <sup>4</sup> of RIA Group				0.53				0.19			
CV of RIA Group				6.7%				12.7%			
Median of European RIA labs				9.5 ( n = 107 )				1.2 ( n = 102 )			
Range of European labs ( 16% – 84% )				9.1 – 10.0				1.1 – 1.5			

RH01a	RH01	3	9	8.3	-1.0	-1.4	-45%	1.0	-0.2	-2.0	-69%
RH02c	RH02	3	1	10.4	1.1	1.5	49%	0.9	-0.3	-3.0	-104%
RH06	RH06	3	9	8.2	-1.1	-1.5	-49%	0.9	-0.3	-3.0	-104%
RH07a	RH07	3	2	8.3	-1.0	-1.4	-45%	1.0	-0.2	-2.0	-69%
RH12	RH12	3	2	10.4	1.1	1.5	49%	1.1	-0.1	-1.0	-35%
RH19	RH19	3	2	10.9	1.6	2.2	72%	1.1	-0.1	-1.0	-35%
RH20	RH20	3	7	9.1	-0.2	-0.3	-9%	1.1	-0.1	-1.0	-35%
CL005	CL005	3	9	8.3	-1.0	-1.4	-45%	1.0	-0.2	-2.0	-69%
CL006a	CL006	3	7	9.0	-0.3	-0.4	-13%	1.1	-0.1	-1.0	-35%
CL008	CL008	3	1	9.6	0.3	0.4	13%	0.8	-0.4	-4.0	-139%
CL011	CL011	3	13	9.4	0.1	0.1	4%	1.3	0.1	1.0	35%
Median of CLIA Group				9.1				1.0			
Range of CLIA Group				8.2 – 10.9				0.8 – 1.3			
Robust average <sup>4</sup> of CLIA Group				9.3 ( n = 11 )				1.0 ( n = 11 )			
Robust SD <sup>4</sup> of CLIA Group				1.10				0.13			
CV of CLIA Group				11.8%				13.0%			
Median of European labs				9.1 ( n = 1180 )				1.2 ( n = 1145 )			
Range of European CLIA labs ( 16% – 84% )				8.5 – 10.3				1.0 – 1.3			

Median of All Labs				8.3				1.1			
Range of All Labs				7.2 – 10.9				0.8 – 1.8			
Robust average <sup>4</sup> of All Labs				8.6 ( n = 21 )				1.2 ( n = 21 )			
Robust SD <sup>4</sup> of All Labs				1.07				0.31			
CV of All Labs				12.3%				25.8%			
Median of All European Labs				9.3				1.2			
Range of All European Labs ( 16% – 84% )				8.4 – 10.4				1.0 – 1.3			
Mean of All European Labs				9.3 ( n = 1411 )				1.2 ( n = 1377 )			
SD of All European Labs				1.31				0.17			
CV of All European Labs				14.1%				14.4%			

1.  $D = X - X_a$
2.  $Z_{score} = D / \sigma_{Targ}$
3. Da% (Your result from target as percentages of allowed deviation) =  $D / (X_a \times MAD) \times 100\%$
4. Robust results were calculated by Algorithm A according to ISO 13528:2005 and IUPAC/CITAC Guide: Selection and use of proficiency testing scheme for a limited number of participants. Pure Appl Chem 2010;82:1099-135.
5. The Target value ( $X_a$ ) is the median of the results of this control material used in European surveys.
6. Maximum allowable deviation (MAD) 24%,  $\sigma_{Targ} = 8\% \times X_a$

	Sample S1	Sample S2
Target value ( $X_a$ ) <sup>5</sup> ( mIU/L )	<b>9.3 ( n = 1411 )</b>	<b>1.2 ( n = 1377 )</b>
Target SD ( $\sigma_{Targ}$ ) <sup>6</sup>	<b>0.74</b>	<b>0.10</b>

Method Name	Method Code	Laboratory
Radioimmunoassay ( Sandwich - type )	1	RH01b, RH07b, RH14, RH15, CL009, CL010, CL012, CL013, CL014a, CL015,
Chemiluminescent Immunoassay ( Sandwich - type )	3	RH01a, RH02c, RH06, RH07a, RH12, RH19, RH20, CL005, CL006a, CL008, CL011,

Reagent Kit	Reagent Code	Laboratory
Abbott Architect	1	CL008, RH02c,
Beckman Coulter Access	2	RH07a, RH12, RH19,
Cisbio RIA-gnost	3	CL009, CL010, CL012, CL014a, CL015, RH01b, RH07b, RH14, RH15,
Immunotech	5	CL013,
Siemens ADVIA Centaur	7	CL006a, RH20,
Siemens Immulite 2000	9	CL005, RH01a, RH06,
Roche	13	CL011,

備註：

1. 品管結果報告刊載於網際網路 <<http://cht.qap.tw>>
2. 若有任何問題請洽 預防醫學基金會 范美羚小姐  
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## 備註說明：

1. D 值 = 檢驗值 (X) 與目標值 (Xa) 之差距。 ( $D = X - X_a$ )
2.  $Z_{score}$  = 檢驗值差距 (D) 與目標標準差 ( $\sigma_{Targ}$ ) 之比值。 ( $Z_{score} = D / \sigma_{Targ}$ )
3. Da% 為貴單位的檢驗值與目標值之差距，以最大允許偏差 (MAD) 的百分比表示。  $D / (X_a \times MAD) \times 100\%$
4. 穩健 (Robust) 運算結果乃根據 ISO 13528:2005 及 IUPAC/CITAC 指引中的演算法 (Algorithm A) 計算所得。(參考資料：*ISO 13528:2005 and IUPAC/CITAC Guide: Selection and use of proficiency testing scheme for a limited number of participants. Pure Appl Chem 2010;82:1099-135.*)
5. 目標值 (Xa) 為此品管檢體於歐洲地區大規模院際品管調查結果之中位數 (median)。
6. 最大允許偏差 (Maximum Allowable Deviation ; MAD) 為 24% ; 目標標準差 ( $\sigma_{Targ}$  ; Target SD) 為 8% x Xa