

2016 年度 CHT 確診醫院第 1 次 T₃ 檢驗院際品管結果報告

送檢批號：CHT2016-01

檢體寄出日期：2016-02-22

報告回收截止日期：2016-02-29

回收份數：21

T₃ 檢驗院際品管結果：

[1.各確診醫院 T₃ 檢驗院際品管結果一覽表](#)

[2.歷次品管檢體 T₃ 檢驗值之實驗室間 CV 分佈圖](#)

[3.確診醫院 T₃ 檢驗院際品管結果分佈圖](#)

[4.至本次各機構 z score 分佈圖](#)

[5.至本次各機構 D% 分佈圖](#)

[6.至本次各機構 SDI 分佈圖](#)

各確診醫院 T₃ 檢驗院際品管結果一覽表

| 檢驗單位 <代碼> | 確診醫院 <代碼> | 回報 天數 | 檢驗方 法編碼 | 檢驗試 劑編碼 | 檢體 S1 | | | | | | 檢體 S2 | | | | | |
|---|--------------|----------|------------|------------|--------------|-------|-------|------|------|-----|-------------|-------|-------|------|------|-----|
| | | | | | (ng/dL) | D | D% | z | SDI | Da% | (ng/dL) | D | D% | z | SDI | Da% |
| RH01b | RH01 | 1 | 2 | 5 | 171 | 2.0 | 1.2 | 0.1 | 0.3 | 5 | 101 | 7.0 | 7.4 | 0.9 | 0.8 | 31 |
| RH07b | RH07 | 7 | 2 | 3 | 157 | -12.0 | -7.1 | -0.9 | -0.5 | -30 | 80 | -14.0 | -14.9 | -1.9 | -0.9 | -62 |
| RH14 | RH14 | 4 | 2 | 3 | 153 | -16.0 | -9.5 | -1.2 | -0.8 | -40 | 86 | -8.0 | -8.5 | -1.1 | -0.4 | -36 |
| RH15 | RH15 | 4 | 2 | 5 | 168 | -1.0 | -0.6 | -0.1 | 0.1 | -2 | 96 | 2.0 | 2.1 | 0.3 | 0.4 | 9 |
| CL009 | CL009 | 3 | 2 | 5 | 185 | 16.0 | 9.5 | 1.2 | 1.1 | 40 | 97 | 3.0 | 3.2 | 0.4 | 0.5 | 13 |
| CL010 | CL010 | 3 | 2 | 5 | 178 | 9.0 | 5.3 | 0.7 | 0.7 | 22 | 98 | 4.0 | 4.3 | 0.5 | 0.6 | 18 |
| CL012 | CL012 | 4 | 2 | 3 | 145 | -24.0 | -14.2 | -1.8 | -1.2 | -59 | 73 | -21.0 | -22.3 | -2.8 | -1.5 | -93 |
| CL013 | CL013 | 3 | 2 | 5 | 185 | 16.0 | 9.5 | 1.2 | 1.1 | 40 | 100 | 6.0 | 6.4 | 0.8 | 0.8 | 27 |
| CL014a | CL014 | 7 | 2 | 3 | 145 | -24.0 | -14.2 | -1.8 | -1.2 | -59 | 78 | -16.0 | -17.0 | -2.1 | -1.1 | -71 |
| CL015 | CL015 | 4 | 2 | 5 | 170 | 1.0 | 0.6 | 0.1 | 0.2 | 2 | 100 | 6.0 | 6.4 | 0.8 | 0.8 | 27 |
| Median of RIA Group | | | | | 169 | | | | | | 97 | | | | | |
| Range of RIA Group | | | | | 145 - 185 | | | | | | 73 - 101 | | | | | |
| Robust mean of RIA Group | | | | | 166 (n = 10) | | | | | | 91 (n = 10) | | | | | |
| Robust SD of RIA Group | | | | | 17.1 | | | | | | 12.0 | | | | | |
| CV of RIA Group | | | | | 10.3% | | | | | | 13.2% | | | | | |
| | | | | | | | | | | | | | | | | |
| 檢驗單位 <代碼> | 確診醫院 <代碼> | 回報 天數 | 檢體方 法編碼 | 檢體試 劑編碼 | 檢體 S1 | | | | | | 檢體 S2 | | | | | |
| | | | | | (ng/dL) | D | D% | z | SDI | Da% | (ng/dL) | D | D% | z | SDI | Da% |
| RH01a | RH01 | 1 | 4 | 9 | 169 | 0.0 | 0.0 | 0.0 | -0.3 | 0 | 84 | -10.0 | -10.6 | -1.3 | -0.6 | -44 |
| RH02c | RH02 | 3 | 4 | 1 | 181 | 12.0 | 7.1 | 0.9 | 0.4 | 30 | 95 | 1.0 | 1.1 | 0.1 | 0.4 | 4 |
| RH06 | RH06 | 1 | 4 | 9 | 139 | -30.0 | -17.8 | -2.2 | -2.1 | -74 | 79 | -15.0 | -16.0 | -2.0 | -1.1 | -67 |
| RH07a | RH07 | 3 | 4 | 2 | 176 | 7.0 | 4.1 | 0.5 | 0.1 | 17 | 96 | 2.0 | 2.1 | 0.3 | 0.5 | 9 |
| RH12 | RH12 | 4 | 4 | 2 | 176 | 7.0 | 4.1 | 0.5 | 0.1 | 17 | 93 | -1.0 | -1.1 | -0.1 | 0.2 | -4 |
| RH19 | RH19 | 3 | 4 | 2 | 158 | -11.0 | -6.5 | -0.8 | -0.9 | -27 | 85 | -9.0 | -9.6 | -1.2 | -0.6 | -40 |
| RH20 | RH20 | 3 | 4 | 7 | 197 | 28.0 | 16.6 | 2.1 | 1.4 | 69 | 106 | 12.0 | 12.8 | 1.6 | 1.4 | 53 |
| CL005 | CL005 | 2 | 4 | 9 | 174 | 5.0 | 3.0 | 0.4 | 0.0 | 12 | 81 | -13.0 | -13.8 | -1.7 | -0.9 | -58 |
| CL006a | CL006 | 4 | 4 | 1 | 189 | 20.0 | 11.8 | 1.5 | 0.9 | 49 | 97 | 3.0 | 3.2 | 0.4 | 0.6 | 13 |
| CL008 | CL008 | 4 | 4 | 2 | 156 | -13.0 | -7.7 | -1.0 | -1.1 | -32 | 83 | -11.0 | -11.7 | -1.5 | -0.7 | -49 |
| CL011 | CL011 | 0 | 4 | 13 | 186 | 17.0 | 10.1 | 1.3 | 0.7 | 42 | 106 | 12.0 | 12.8 | 1.6 | 1.4 | 53 |
| Median of CLIA Group | | | | | 176 | | | | | | 93 | | | | | |
| Range of CLIA Group | | | | | 139 - 197 | | | | | | 79 - 106 | | | | | |
| Robust mean of CLIA Group | | | | | 174 (n = 11) | | | | | | 91 (n = 11) | | | | | |
| Robust SD of CLIA Group | | | | | 16.9 | | | | | | 10.9 | | | | | |
| CV of CLIA Group | | | | | 9.7% | | | | | | 12.0% | | | | | |
| | | | | | | | | | | | | | | | | |
| Median of All Labs | | | | | 171 | | | | | | 95 | | | | | |
| Range of All Labs | | | | | 139 - 197 | | | | | | 73 - 106 | | | | | |
| Robust mean of All Labs | | | | | 170 (n = 21) | | | | | | 91 (n = 21) | | | | | |
| Robust SD of All Labs | | | | | 17.5 | | | | | | 11.0 | | | | | |
| CV of All Labs | | | | | 10.3% | | | | | | 12.1% | | | | | |
| | | | | | | | | | | | | | | | | |
| Certified assigned value (X _a) (ng/dL) | | | | | 169 | | | | | | 94 | | | | | |
| Expanded uncertainty (U _a) | | | | | 1.7 | | | | | | 0.9 | | | | | |
| Relative expanded uncertainty | | | | | 1.0% | | | | | | 1.0% | | | | | |
| Coverage factor k | | | | | 2.6 | | | | | | 2.6 | | | | | |
| Effective degrees of freedom v _{eff} | | | | | 5 | | | | | | 5 | | | | | |
| SD for proficiency assessment (σ _p) | | | | | 13.5 | | | | | | 7.5 | | | | | |
| | | | | | | | | | | | | | | | | |
| 1. 設定值 (X _a) 為國際認證的參考實驗室使用同位素稀釋質譜分析 (Isotope Dilution Mass Spectrometry; IDMS) 標準參考方法標定。 | | | | | | | | | | | | | | | | |
| 2. D 值為檢驗值 (X) 與設定值 (X _a) 之差距。【 D = X - X _a 】。 | | | | | | | | | | | | | | | | |
| 3. D% 為 D 值與設定值 (X _a) 之比值，以百分比表示。【 D% = (D / X _a) x 100% 】。 | | | | | | | | | | | | | | | | |
| 4. z score 為檢驗值差距 (D) 與評定標準差 (σ _p) 之比值。【 z score = D / σ _p 】。 | | | | | | | | | | | | | | | | |
| 5. SDI 為檢驗值 (X) 與同儕群體平均值之差距與同儕群體標準差之比值。【 SDI = (X - Mean) / SD 】。當 SD 值為 0 時，SDI 不予統計。 | | | | | | | | | | | | | | | | |
| 6. Da% 為 D 值與最大允許偏差值 (MAD) 之比值，以百分比表示。【 Da% = D / (X _a x MAD) x 100% 】。 | | | | | | | | | | | | | | | | |
| 7. Acceptable : z ≤ 2; Caution : 2 < z ≤ 3; Unsatisfactory : z > 3。 | | | | | | | | | | | | | | | | |
| 8. 檢驗方法 2 : Radioimmunoassay (Competitive-type) ; 4 : Chemiluminescent Immunoassay (Competitive-type) 。 | | | | | | | | | | | | | | | | |
| 9. 平均值 (Mean) 與群體標準差 (SD) 採用穩健 (Robust) 統計方法計算 (依據 ISO 13528:2005 指引，使用 Algorithm A 演算法) 。 | | | | | | | | | | | | | | | | |
| 10. 評定標準差 (σ _p) 為 8% x X _a 。 | | | | | | | | | | | | | | | | |
| 11. 最大允許偏差 (Maximum Allowable Deviation; MAD) 為 3 x (σ _p / X _a) x 100% 。 | | | | | | | | | | | | | | | | |

| Method Name | Method Code | Laboratory |
|---|-------------|---|
| Radioimmunoassay (Competitive-type) | 2 | RH01b, RH07b, RH14, RH15, CL009, CL010, CL012, CL013, CL014a, CL015, |
| Chemiluminescent Immunoassay (Competitive-type) | 4 | RH01a, RH02c, RH06, RH07a, RH12, RH19, RH20, CL005, CL006a, CL008, CL011, |

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

[\[Home \]](#)

若有任何疑問,歡迎來電(函)聯繫或指教



財團法人預防醫學基金會



地址：10699 台北郵政 26-624 號信箱 電話：(02) 2703-6080

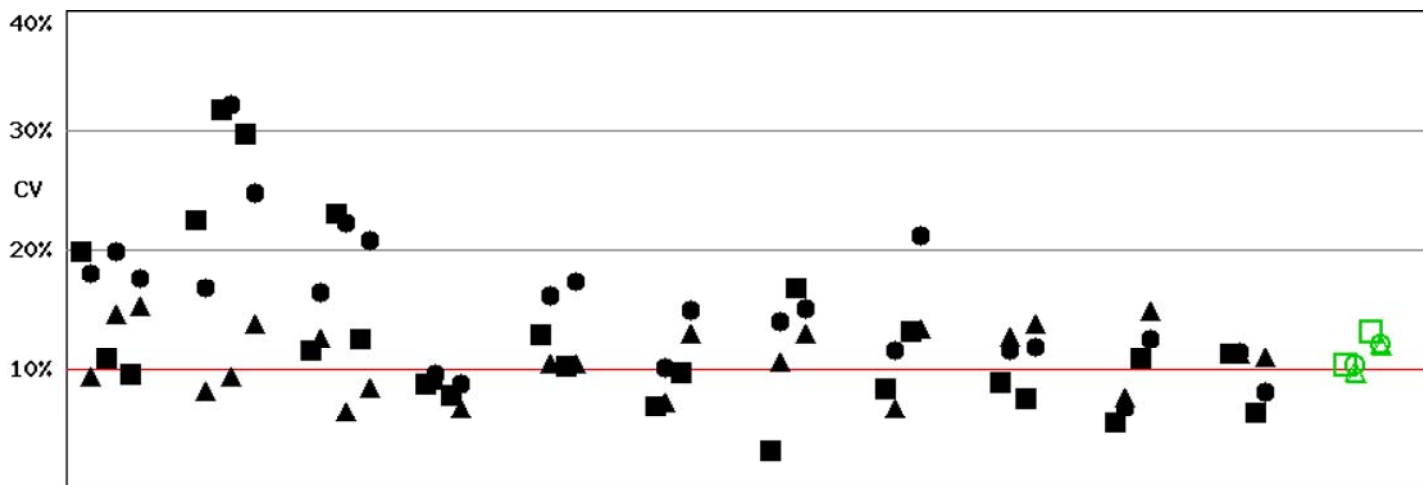
e-mail：cht@pmf.tw 傳真：(02) 2703-6070

updated : 2016-03-01

Long Term Observation of CHT (T₃) EQA Survey for Confirmatory Hosp.

Survey No : CHT2016-01 T₃ (in green □△○)

- Total participants' CV result plotted T₃ against surveys



BatchNo CHT2013-04 CHT2013-08 CHT2013-10 CHT2014-02 CHT2014-04 CHT2014-07 CHT2014-10 CHT2015-01 CHT2015-04 CHT2015-07 CHT2015-10 CHT2016-01
Fig T3-2.1

- Total participants' CV result plotted T₃ against concentration

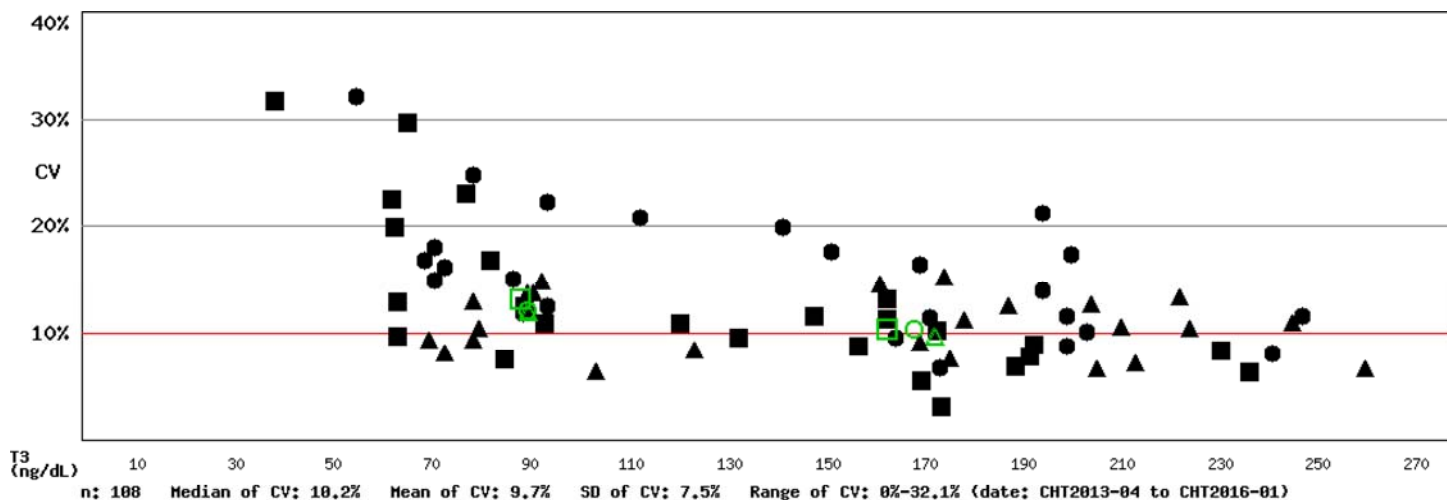


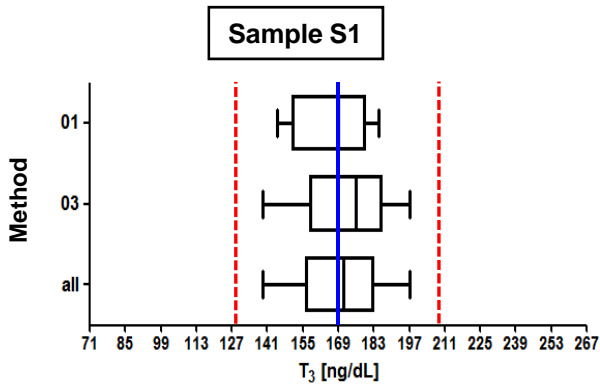
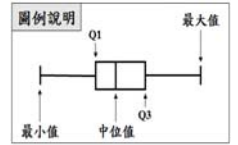
Fig T3-2.2

- 備註：1). ■□ Method 2 , ▲△ Method 4 , ●○ All Method
 2). 品管結果報告刊載於網際網路 <<http://cht.gap.tw>>
 3). 若有任何問題請洽 預防醫學基金會 范美玲小姐。
 10699 台北郵政 26-624 信箱
 電話：(02) 2703-6080 傳真：(02) 2703-6070

CHT2016-01 批次 T₃ 檢驗院際品管統計分佈圖

送檢批號：CHT2016-01 檢體寄出日期：2016年02月22日 報告截止日期：2016年02月29日

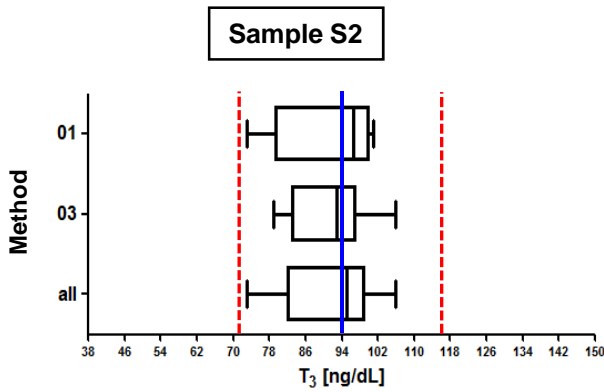
回收份數(比率)：21份(100%)



檢體 S1

| Method | 檢驗單位數 | 中位值 (Median) | 平均值 (Mean) | 標準差 (SD) | 變異係數 (CV) |
|--------|-------|--------------|------------|----------|-----------|
| 02 | 10 | 169 | 166* | 17.1* | 10.3% |
| 04 | 11 | 176 | 174* | 16.9* | 9.7% |
| All | 21 | 171 | 170* | 17.5* | 10.3% |
| AEL** | 141 | 189 | 187 | 21.8 | 11.6% |

Certified assigned value : 169 ng/dL



檢體 S2

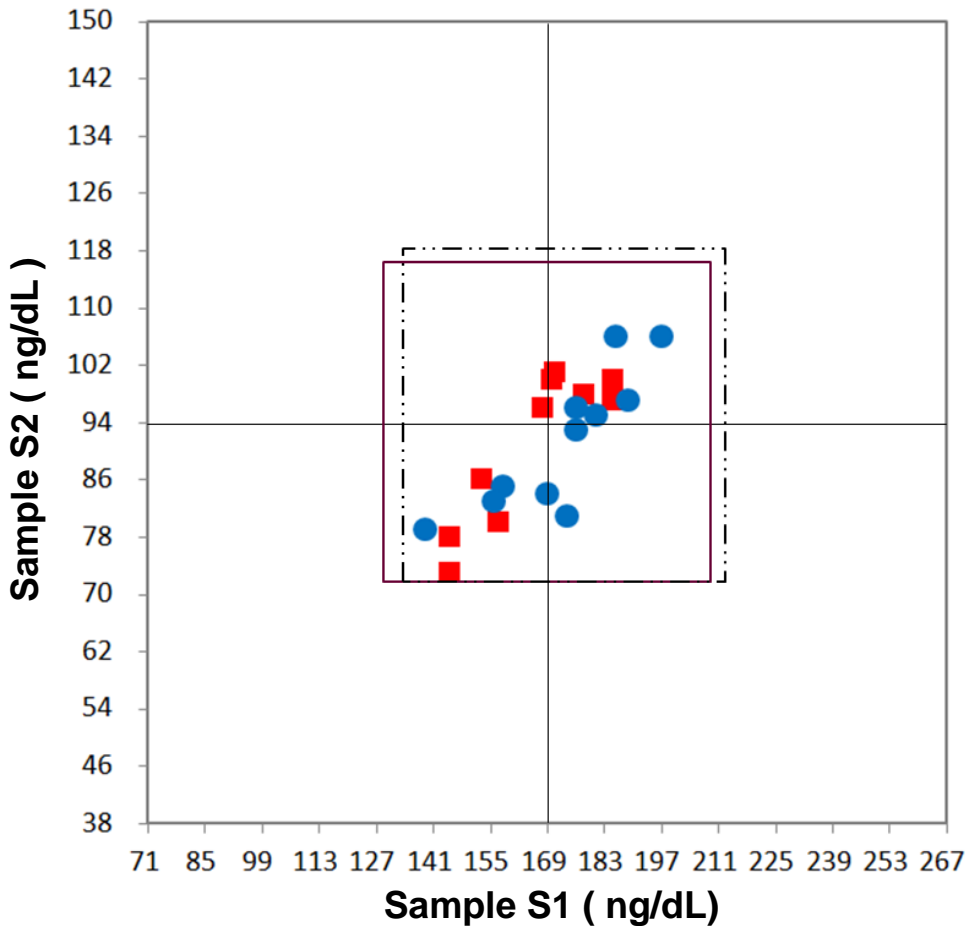
| Method | 檢驗單位數 | 中位值 (Median) | 平均值 (Mean) | 標準差 (SD) | 變異係數 (CV) |
|--------|-------|--------------|------------|----------|-----------|
| 02 | 10 | 97 | 91* | 12.0* | 13.2% |
| 04 | 11 | 93 | 91* | 10.9* | 12.0% |
| All | 21 | 95 | 91* | 11.0* | 12.1% |
| AEL** | 137 | 104 | 101 | 13.7 | 13.6% |

Certified assigned value : 94 ng/dL

* Calculated by robust method (ISO 13528 ; Algorithm A)

** All European Laboratories

* — Assigned value , - - - MAD



Youden Plot 圖例說明

