**Supplementary Table 1.** Precision of POC assay system for insulin and C-peptide (pmol/L)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 　 | Mean | Within-run | 　 | Between-run | 　 | Between-day | 　 | Within-laboratory  |
| 　 |  | SD (95% CI) | CV (%) | 　 | SD (95% CI) | CV(%) | 　 | SD (95% CI) | CV (%) | 　 | SD (95% CI) | CV (%) |
| Insulin |  |  |  |  |  |  |  |  |  |  |  |  |
| Level 1 | 73.06 | 6.96 (5.72 - 8.91) | 9.52 |  | 2.32 (1.90 - 2.97) | 3.17 |  | 2.95 (2.42 - 3.78) | 4.03 |  | 7.90 (6.71 - 9.63) | 10.81 |
| Level 2 | 262.38 | 32.73 (26.88 - 41.91) | 12.47 |  | 15.72 (12.70 - 20.12) | 5.98 |  | 21.05 (17.29 - 26.95) | 8.02 |  | 41.97 (28.68 - 51.08) | 15.99 |
| Level 3 | 520.53 | 47.99 (39.42 - 61.46) | 9.22  |  | 37.02 (30.43 - 47.43) | 7.11 |  | 16.08 (13.21 - 20.59) | 3.08 |  | 62.73 (53.24 - 76.35) | 12.05 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| C-peptide |  |  |  |  |  |  |  |  |  |  |  |  |
| Level 1 | 0.38 | 0.03 (0.03 - 0.04) | 8.71 |  | 0.01 (0.01 - 0.14) | 2.81 |  | 0.003 (0.002 - 0.004) | 9.38 |  | 0.04 (0.002 - 0.04) | 9.21 |
| Level 2 | 1.42 | 0.16 (0.13 - 0.21) | 11.3 |  | 0.10 (0.08 - 0.13) | 7.19 |  | 0.02 (0.02 - 0.03) | 1.52 |  | 0.19 (0.16 - 0.24) | 13.51 |
| Level 3 | 3.71 | 0.33 (0.27 - 0.43) | 8.94  | 　 | 0.34 (0.28 - 0.44) | 9.19 | 　 | 0.19 (0.15 - 0.24) | 5.01 | 　 | 0.51 (0.43 - 0.62) | 13.77 |

The unit of insulin is pmol/L and for C-peptide, nmol/L

**Supplementary Table 2. Additional laboratories data for normal control and T2DM pateints**

|  |  |  |  |
| --- | --- | --- | --- |
| 　 | Normal (n=151) | T2DM (n=199) | P value |
| Blood chemistry |  |  |  |
|  Bilirubin (mg/dL) | 0.86±0.36 | 0.8±0.32 | NS |
|  AST (U/L) | 25.82±7.84 | 29.79±20.94 | 0.01 |
|  ALT (U/L) | 20.08±11.02 | 28.05±18.53 | <0.0001 |
|  GGT (U/L) | 21.99±19.13 | 40.22±47.66 | <0.0001 |
|  ALP (U/L) | 76.68±49.10 | 80.63±21.27 | NS |
|  Total Protein (g/dL) | 7.41±0.38 | 7.34±0.42 | NS |
|  Albumin (g/dL) | 7.80±0.39 | 4.29±0.29 | <0.0001 |
|  BUN (mg/dL) | 14.22±0.17 | 16.04±5.64 | 0.001 |
|  Creatinine (mg/dL) | 0.70±0.17 | 0.90±0.39 | <0.0001 |