# Reference level, stability and sample material

| Test | Reference level[1] (adults) | | Stability and sample material | | | | | | Comments |
|---|---|---|---|---|---|---|---|---|---|
| | Conventional | System International | Serum | fresh capillary and fresh venous blood | Heparin Blood | EDTA Blood | Heparin Plasma | EDTA Plasma[4] | |
| Bilirubin | < 1.2 mg/dL | < 21 µmol/L | 2 h | Immediately | 2 h | 2 h | 2 h | 2 h | EDTA and Heparin blood to be kept in the dark. The Reflotron Bilirubin test can not be used on newborn because of special rheological and physiological characteristics of the sample material |
| Cholesterol | < 200 mg/dL | < 5.2 mmol/L | 4 h[2]<br>12 h[3] | Immediately | 4 h[2]<br>8 h[3] | 4 h[2]<br>8 h[3] | 4 h[2]<br>12 h[3] | 4 h[2]<br>12 h[3] | Shake the sample before performing tests. Do not freeze specimens |
| Creatinine | < 1.1 mg/dL<br>< 0.9 mg/dL | < 97 µmol/L<br>< 80 µmol/L | 24 h | Immediately | 6 h | 6 h | 24 h | 24 h | Urine as sample please see packaging insert |
| Glucose | 60 - 109 mg/dL | 3.3 - 6.05 mmol/L | 2 h | Immediately | 10 min | 10 min | 2 h | 2 h | Separate serum from the cellular components immediately after coagulation - but no later than 1/2 hour after collection of the blood sample. Perform the glucose determination within 2 hours |
| Hemoglobin | ♂ < 14 - 17.5 g/dL<br>♀ < 12.3 - 15.3 g/dL | < 8.7 - 10.9 mmol/L<br>< 7.6 - 9.5 mmol/L | X | Immediately | 24 h | 24 h | X | X | Heparin and EDTA blood after storage give a good shake |
| HDLP HDL Cholesterol | < 40 mg/dL or < 1.04 mmol/L low HDL Cholesterol (high risk for CHD)<br>≥ 60 mg/dL or ≥ 1.56 mmol/L high HDL Cholesterol (high risk for CHD)<br>CHD = Coronary Heart Disease | | X | X | X | X | X | after 24 h +4% | Only fresh EDTA plasma |
| K+ (Potassium) | Serum<br>Plasma | 3.6 - 5.0 mmol/L<br>3.5 - 4.6 mmol/L | > 7 d | X | X | X | > 7 d | X | Separate serum from the clot within one hour; if heparinized plasma is used, the anticoagulated blood should be centrifuged and separated from the cells immediately after collection. In closed containers potassium is stable in serum or plasma for at least one week at + 4°C to + 25°C |
| TG Triglycerides | ≤ 200 mg/dL | ≤ 2.30 mmol/L | 8 h[2]<br>24 h[3] | Immediately | 8 h | 8 h | 8 h[2]<br>24 h[3] | 8 h[2]<br>24 h[3] | Kept in closed container. Do not freeze specimens |
| UA Uric Acid | ♂ 3.4 - 7.0 mg/dL<br>♀ 2.4 - 5.7 mg/dL | 200 - 420 µmol/L<br>140 - 340 µmol/L | 3 d[2]<br>7 d[3] | Immediately | 8 h | X | 3 d[2]<br>7 d[3] | X | Kept in closed container |
| Urea | < 65Y < 50 mg/dL<br>> 65Y < 71 mg/dL | < 8.3 mmol/L<br>< 11.9 mmol/L | 7 d | Immediately | 8 h | 8 h | 7 d | 7 d | Kept in closed container |
| ALP. Alkaline Phosphates | ♂ 106 - 265 U/L<br>♀ < 50Y normal weight 83 - 223 U/L<br>♀ > 50Y over weight 91 - 258 U/L | 1.77 - 4.42 µkat/L<br>1.39 - 3.72 µkat/L<br>1.52 - 4.30 µkat/L | 3 d<br>7 d[3] | Immediately | 8 h | X | 1 d | X | Kept in closed container |
| AMYL Amylase | < 100 U/L | < 1.65 µkat/L | 7 d[2]<br>1 m[3] | Immediately | 8 h | X | 7 d[2]<br>1 m[3] | X | Kept in closed container |
| P-AM Pancreatic Amylase | < 53 U/L<br>Random Urine 325 U/L or 5.42 µkat/L | < 0.89 µkat/L | 7 d | Immediately | 8 h | X | 7 d | X | Kept in closed container. For urine samples use reference level: Random urine 2d[2] ≥ 10d[3] |
| CK | ♂ 24 - 195 U/L<br>♀ 24 - 170 U/L | 0.4 - 3.25 µkat/L<br>0.4 - 2.83 µkat/L | 24 h[2]<br>7 d[3] | Immediately | 8 h | X | 24 h[2]<br>7 d[3] | X | Kept in closed container |
| GGT | ♂ 10 - 71 U/L<br>♀ 6 - 42 U/L | 0.17 - 1.19 µkat/L<br>0.10 - 0.70 µkat/L | 7 d | Immediately | 8 h | 8 h | 7 d | 7 d | Kept in closed container |
| GOT (AST) | ♂ < 40 U/L<br>♀ < 33 U/L | < 0.67 µkat/L<br>< 0.55 µkat/L | 4 d[2]<br>7 d[3] | Immediately | 1 h | X | 4 d[2]<br>7 d[3] | X | Kept in closed container |
| GPT (ALT) | ♂ < 41 U/L<br>♀ < 32 U/L | < 0.68 µkat/L<br>< 0.53 µkat/L | | Immediately | 1 h | X | 3 d[2]<br>7 d[3] | X | Kept in closed container |

*[1] testing Temperature 37°C [2] kept in closed container at +20 - 25°C [3] kept in closed container at +4 - 8°C [4] plasma separation to be done immediately*

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