



BEAUFORT COTTAGE LABORATORIES REFERENCE RANGES

ADULT THOROUGHBRED HORSES AT STUD

Clinical Pathology Reference Ranges – Means & Ranges

| Test | Abbreviation | Units | Mean | Range |
|-------------------------------------|--------------|--------------------|------|-----------|
| Total erythrocytes | RBC | $\times 10^{12}/l$ | 11.5 | 9.0-14.0 |
| Packed cell volume | PCV | l/l | 0.41 | 0.35-0.47 |
| Haemoglobin | Hb | g/dl | 14.0 | 11.1-16.9 |
| Mean cell volume | MCV | fl | 36.0 | 31.0-41.0 |
| Mean cell haemoglobin concentration | McHc | g/dl | 34.0 | 32.0-36.0 |
| Mean cell haemoglobin | McH | pg | 12.1 | 10.0-14.2 |
| Total leucocytes | WBC | $\times 10^9/l$ | 7.1 | 4.1-10.1 |
| Segmented neutrophils | Segs | $\times 10^9/l$ | 3.6 | 1.4-5.8 |
| | Segs | % | 52 | 36-68 |
| Lymphocytes | Lymphs | $\times 10^9/l$ | 3.0 | 1.4-4.7 |
| | Lymphs | % | 45 | 39-61 |
| Monocytes | Monos | $\times 10^9/l$ | 0.4 | 0.36-0.56 |
| | Monos | % | 4 | 2-6 |
| Eosinophils | Eos | $\times 10^9/l$ | 0.2 | 0-0.5 |
| | Eos | % | 3 | 0-5 |
| Platelets | Plts | $\times 10^9/l$ | 170 | 127-206 |
| Plasma viscosity | PV | mPa | 1.45 | 1.35-1.55 |
| Total Protein | TSP | g/l | 70 | 65-75 |
| Albumin | Alb | g/l | 36 | 34-38 |
| Globulin | Glob | g/l | 34 | 29-39 |
| Alpha 1 globulin | x1 glob | g/l | 1.6 | 1.1-2.1 |
| Alpha 2 globulin | x2 glob | g/l | 6.9 | 5.5-7.9 |
| Beta 1 globulin | x1 glob | g/l | 9.2 | 6.8-11.4 |
| Beta 2 globulin | x2 glob | g/l | 5.5 | 3.5-7.2 |
| Gamma globulin | x glob | g/l | 11.3 | 8.3-14.4 |
| Plasma fibrinogen | Fib | g/l | 2.2 | 1.5-3.3 |
| Serum amyloid A | SAA | mg/l | 1.3 | 0-20 |
| Aspartate amino transferase | AST | iu/l | 309 | 256-369 |
| Creatinine kinase | CK | iu/l | 216 | 154-270 |
| Lactate dehydrogenase | LD | iu/l | 525 | 383-664 |
| LD isoenzyme 1 | LD1 | % total LD | 13 | 10-17 |
| LD isoenzyme 2 | LD2 | % total LD | 30 | 24-37 |
| LD isoenzyme 3 | LD3 | % total LD | 43 | 38-49 |
| LD isoenzyme 4 | LD4 | % total LD | 13 | 9-18 |
| LD isoenzyme 5 | LD5 | % total LD | 2 | 1-3 |

| Test | Abbreviation | Units | Mean | Range |
|------------------------------------|--------------|-------------|------|------------|
| Gamma glutamyl transferase | GGT | iu/l | 20 | 14-28 |
| Glutamate dehydrogenase | GLDH | iu/l | 8 | 4-14 |
| Serum alkaline phosphatase | SAP | iu/l | 403 | 286-571 |
| Intestinal alkaline phosphatase | IAP | iu/l | 103 | 77-157 |
| | IAP | % total SAP | 24.3 | <28 |
| Urea | Urea | mmol/l | 7.6 | 5.9-9.5 |
| Creatinine | Creat | µmol/l | 99 | 87-112 |
| Bromsulphalein half time clearance | BSP | Seconds | 168 | 138-198 |
| Glucose | Glu | mmol/l | 4.7 | 3.5-5.9 |
| Total bilirubin | TBili | µmol/l | 26 | 13-39 |
| Direct bilirubin | DBili | µmol/l | 10 | 4-15 |
| Bile acids | BACids | µmol/l | 4.7 | 0-8.0 |
| Cholesterol | Chol | mmol/l | 2.45 | 2.0-3.3 |
| Triglycerides | Trigs | mmol/l | 1.06 | 0.26-2.6 |
| Lipase | Lip | mmol/l | 42.5 | 23.8-124.5 |
| Amylase | Amyl | iu/l | 8.9 | 3.3-22.1 |
| Calcium | Ca | mmol/l | 3.1 | 3.0-3.3 |
| Fractional urinary clearance | Ca | % | 6.2 | 2.6-15.5 |
| Phosphate | PO4 | mmol/l | 1.0 | 0.8-1.3 |
| Fractional urinary clearance | PO4 | % | 0.3 | 0.02-0.53 |
| Magnesium | Mg | mmol/l | 0.8 | 0.6-0.9 |
| Fractional urinary clearance | Mg | % | 11.7 | 3.8-21.9 |
| Copper (serum) | Cu | µmol/l | 17.1 | 13.5-20.3 |
| Copper (plasma) | Cu | µmol/l | | |
| Zinc | Zn | µmol/l | | |
| Sodium | Na | mmol/l | 142 | 135-149 |
| Fractional urinary clearance | Na | % | 0.09 | 0.02-1.0 |
| Potassium | K | mmol/l | 3.8 | 3.3-4.1 |
| Fractional urinary clearance | K | % | 32.8 | 15-65 |
| Chloride | Cl | mmol/l | 104 | 100-108 |
| Fractional urinary clearance | Cl | % | 0.72 | 0.04-1.6 |
| Cortisol | Cort | nmol/l | 136 | 71-240 |
| Fasting Insulin | Ins | µiu/ml | 25.5 | 8.0-47.5 |
| Tri-iodothyronine | T3 | nmol/l | 1.0 | 0.48-1.46 |
| Thyroxine | T4 | nmol/l | 22.7 | 7.7-42.8 |
| Troponin | cTnl | ng/ml | 0.1 | 0.05-0.2 |
| Selenium | Se | µmol/l | 3.5 | 1.6-5.3 |