

Abbreviation	Name	What it does	Ideal Range
Na+	Sodium (electrolyte)	Sodium plays a role in water regulation in the body. Main source - the diet. Low sodium occurs with loss of sodium containing fluid (diarrhea or excessive sweating), some types of colic, ruptured bladder in a foal. High sodium is uncommon, seen with water deprivation.	126-148 MMOL/L
K+	Potassium (electrolyte)	Elevated potassium values can be due to kidney disease, metabolic disease, and muscle damage. High levels can be deadly. Low potassium is associated with a decreased dietary intake, loss from the GI tract (ex. diarrhea), or changes in kidney function.	2.5-5.2 MMOL/L
TCO2	Total Bicarbonate	Helps to assess the changes that occur with respect to the acid-base balance of the body. The blood needs to maintain itself at a pH around 7.4 (7.0 is neutral) -tCO2 acts as a "buffer system." An increase in tCO2 indicates a higher than desired pH (metabolic alkalosis), a decrease indicates a lower than desired pH (metabolic acidosis).	20-33 MMOL/L
CK	Creatinine Kinase (enzyme)	Muscle enzyme that is elevated with muscle damage. Highest level will be seen 4-6 hours after injury. This enzyme will peak before AST.	120-470 MMOL/L
GLU	Glucose (carbohydrate)	A sugar easily measured in blood. Elevated with a recent feeding, excitement, transportation, stress/pain (for ex. colic), metabolic disease (Cushing's syndrome). Low levels are seen most often in foals that are sick/injured such that feed intake (mare's milk) is decreased and energy stores are quickly used up.	65-110 MG/DL
CA	Calcium (mineral)	Essential mineral for many systems in the body (skeleton, enzymes, muscle, blood and body regulation). High levels can be due to kidney failure, cancer, toxic levels of vitamin D, and poor nutrition. Low levels can be seen with conditions like lactation, acute kidney failure, and low albumin.	11.5-14.2 MG/DL
BUN	Blood Urea Nitrogen (from protein breakdown)	Elevated levels are seen with conditions such as kidney failure, dehydration, heart disease, and bladder rupture. Low levels might suggest excessive water intake, liver issues, or low levels of protein obtained from the diet.	7-25 MG/DL
CRE	Creatinine (product of muscle metabolism)	More specific test for kidney function. Kidneys are responsible for clearing creatinine from the body. Level is not affected by the diet or by liver function. Elevated levels can be due to kidney issues or severe, prolonged exercise (Cr originates in muscle but is not an indicator of muscle damage). A higher than normal creatinine may be seen with newborn foals and may be normal or indicate a birth or placenta related problem.	.6-2.2 MG/DL
AST	Aspartate Amino-transferase (enzyme)	An enzyme found in a variety of tissues (muscle, heart, red blood cells, kidneys and liver). Elevations can be seen with either muscle or liver damage. Highest levels of AST will be seen at approx. 24 hours after muscle injury.	175-340 U/L
TBIL	Total Bilirubin (orange pigment)	Pigment produced by the breakdown of hemoglobin, usually taken up by the liver. Used to measure liver function. It is responsible for the yellow color known as "jaundice." Can be increased with liver disease and when a horse is not eating, and in diseases in which red blood cells are being destroyed (hemolysis).	.5-2.3 MG/DL
GGT	Gamma-Glutamyl Transferase (enzyme)	Found in the highest levels in the liver and kidney. Increased GGT is seen most often with liver disease	5-24 U/L
ALB	Albumin (protein)	A type of blood protein formed in the liver, important in maintaining the ratio of water and solids in the blood (osmotic pressure). Increased albumin is seen with dehydration. A decrease can indicate liver disease, kidney or intestinal disease, some viral infections and decreased protein intake or absorption.	2.2-3.7 G/DL
TP	Total Protein (protein)	A measure of all of the proteins in the blood (globulins and albumin). Elevated with dehydration and increased production of globulins (for ex. with chronic disease or cancer). Decreased levels are due to kidney or GI disease, liver failure or starvation.	5.7-8.0 G/DL
GLOB	Globulin (protein)	Includes antibodies and proteins involved in blood clotting and inflammation. Important component of the immune system to fight infection.	2.7-5.0 G/DL