

A/G RATIO

The A/G Ratio is a calculated value obtained by dividing the value for albumin by the value for globulin. The normal range for this value is between 1.2 and 2.2. This can assist the physician in determining whether protein values are proportional when the total protein is high or low.

TOTAL BILIRUBIN

Bilirubin (bile) is the pigment that causes a jaundiced individual to appear yellow. Bilirubin is produced when old red blood cells are broken down in the liver. Bilirubin is usually excreted through the gall bladder into the intestines. The normal range for total bilirubin is between 0.1 and 1.2 mg/dl. Low values are of little clinical interest. High values may indicate liver disease such as viral hepatitis, gallstones, cirrhosis, or liver cancer. Excessive alcohol intake can result in cirrhosis, which will cause jaundice in its later stages.

ALKALINE PHOSPHATASE (ALK. PHOS.)

An enzyme found in many tissues in the body, the normal range is between 50 and 160 iu/L. Low values are of little clinical interest. High values usually indicate that the bile is not flowing normally through the gall bladder and bile duct into the intestine, a condition called "Astasis". It can also be seen in liver disease or bone disease. A slight elevation may be normal in growing young adults or following a broken bone.

SGPT (ALT)

Serum **G**lutamic **P**yruvic **T**ransaminase (**A**lanine Amino**t**ransferase) is an enzyme found mainly in the liver that is released onto the bloodstream when the liver is inflamed. Low values are of no clinical interest but high values usually indicate hepatitis.

SGOT (AST)

Serum **G**lutamic **O**xaloacetic **T**ransaminase (**A**sparate Amino**t**ransferase) is when the AST, an enzyme found in the liver and some other body tissues is released into the bloodstream from the inflamed tissue. Low values are of no clinical interest. High values usually indicate hepatitis.

LACTIC DEHYDROGENASE (LDH)

An enzyme found in the liver, lungs, heart and other muscles, LDH is released into the bloodstream when any one of those organs is inflamed. Low values are of no clinical interest. High values usually indicate an inflammation of one of specified organs.

IRON

Iron is an essential element that the body uses to make hemoglobin (HGB). Low iron levels can indicate a diet low in iron or chronic blood loss. High levels may indicate a high dietary iron intake or the presence of a condition known as hemochromatosis (excessive blood iron.) Excessive iron levels can lead to liver damage.

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Laboratory values are evaluated as a part of a person's complete health status. Age, gender, pregnancy, genetics, chronic medical conditions, prescription medications, over-the-counter medications, diet, or herbs may affect the normal range of any test. Disease or another problem may be present even when the laboratory tests are normal. **Each person should discuss their laboratory findings with their own healthcare provider.**

BLOOD GLUCOSE

Glucose is the basic sugar needed to provide energy for all parts of the body. Fasting normal is between 65-100 mg./dl. A low value (hypoglycemia) may be a precursor to diabetes but may also be the result of a tumor or thyroid disease. A high value (hyperglycemia) may also indicate diabetes.

BLOOD UREA NITROGEN (BUN)

This is a product manufactured in the body that must be eliminated by the kidneys. BUN is an indicator of kidney function. The normal range is 9 - 27 mg./dl. Low values have no clinical significance and may indicate a high fluid intake. High values might indicate kidney dysfunction or dehydration.

URIC ACID

The body produces uric acid when the amino acid "purine" is metabolized. There is a lot of purine in nuts and organ meat (kidney, liver, sweat breads, rocky mountain oysters, hot dogs, lunch meat, etc.). Normal is 3.5 and 9.0 mg/dl and low values are not clinically significant. Uric acid levels can be affected by diet, kidney function, and alcohol consumption. People with values above 9.0 mg/dl may need medication.

CREATININE

Creatinine is made by the body when proteins are broken down and must be eliminated by the kidneys. The normal range is between 0.6 - 1.5 mg./dl. A low value is of little clinical significance. A high value indicates that the kidneys might not be functioning properly.

BUN/CREAT RATIO

The **Blood Urea Nitrogen/Creatinine** Ratio is calculated by dividing the BUN by the Creatinine. A more sensitive indicator of kidney function, the normal range is 0.6 -1.5 mg./dl. There is no known significance to a low value. A high value may indicate a problem with kidney function.

SODIUM

Sodium is the alkaline element of table salt. The normal range of sodium is 135 and 148 mg/dl. Low values may mean someone is drinking too many fluids, taking diuretics, or eating a low-sodium diet. High values usually indicate dehydration and that is resolved by drinking more water.

POTASSIUM

Potassium is an alkaline found in foods like bananas and oranges. Normal is 3.5 and 5.3 mg/dl. Low values may indicate over-hydration, taking diuretics, or eating a low-potassium diet and can cause a dangerously irregular because an irregular heartbeat. High values indicate dehydration that is best resolved by drinking more water.

CHLORIDE

Found in table- and sea-salt, chloride is formed when chlorine combines with a metal ion like sodium, calcium or potassium. Normal serum chloride is 96 and 109 meq/L. Since sodium and chloride are usually combined, the interpretation is similar to the interpretation of the sodium values.

CALCIUM

Calcium is the alkaline element of bones, and is normally 8.5 and 10.6 mg/dl.

Low values may indicate a low-calcium diet, using diuretics, or a parathyroid gland disturbance.

High values may indicate dehydration, a parathyroid gland disturbance, or rapid bone loss. Dehydration is best resolved by drinking more water. Very high or very low values can affect the heart.

PHOSPHORUS

Phosphorus is toxic in its elemental form and has many industrial uses. Phosphorus forms phosphide when it combines with a metal ion such as sodium, calcium or potassium. Calcium phosphide hardens bones, oyster shells, snail shells, etc. Normal serum phosphorus is 2.5 and 4.5 mg/dl.

TOTAL PROTEIN

Total protein measures albumin and globulin proteins in blood plasma. The normal plasma total protein is 6.0 and 8.5 g/dl. A low total protein may indicate a low-protein diet, kidney disease, liver disease or acute blood loss. A high plasma protein should be evaluated by which component (albumin and globulin) is elevated.

ALBUMIN

Albumin is a blood protein manufactured in the liver that balances the water in the cells. Normal plasma albumin is 3.6 and 4.8 g/dl. Low albumin may indicate a low-protein diet, kidney disease, liver disease or acute blood loss and high levels may indicate dehydration.

GLOBULIN

Globulin is a blood protein manufactured in the bone marrow and fights infections. The normal globulin range is 0.5 and 4.5 g/dl. A low globulin may indicate an impaired immune system or malnutrition. A high globulin may indicate the presence of an infection or certain tumors.

GAMMA-GLUTAMYL TRANSPEPTIDASE (GGT)

An enzyme found in the liver and released into the bloodstream when the liver is inflamed. Low values are of no clinical interest. High values usually indicate liver inflammation.