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Medical Encyclopedia: Albumin - serum

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Definition

This test measures the amount of albumin in serum, the clear fluid portion of blood.

How the test is performed

Blood is drawn from a vein (venipuncture) or capillary. The blood sample is placed in a centrifuge to separate the cells from the serum.

How to prepare for the test

The health care provider will advise you, if necessary, to discontinue drugs that may affect the test. Drugs that can increase albumin measurements include anabolic steroids, androgens, growth hormone, and insulin.

Why the test is performed

This test helps in determining if a patient has liver disease or kidney disease, or if not enough protein is being absorbed by the body.

Albumin is the protein of the highest concentration in plasma. Albumin transports many small molecules in the blood (for example, bilirubin, calcium, progesterone, and drugs). It is also of prime importance in maintaining the oncotic pressure of the blood (that is, keeping the fluid from leaking out into the tissues). This is because, unlike small molecules such as sodium and chloride, the concentration of albumin in the blood is much greater than it is in the extracellular fluid.

Because albumin is synthesized by the liver, decreased serum albumin may result from liver disease. It can also result from kidney disease, which allows albumin to escape into the urine. Decreased albumin may also be explained by malnutrition or a low protein diet.

Normal Values

The normal range is 3.4 - 5.4 g/dL.

Normal values may vary slightly from laboratory to laboratory.

What abnormal results mean

Lower-than-normal levels of albumin may indicate:

- Ascites
- Burns (extensive)
- Glomerulonephritis

- Liver disease [for example, hepatitis, cirrhosis, or hepatocellular necrosis ("tissue death")]
- Malabsorption syndromes (for example, Crohn's disease, sprue, or Whipple's disease)
- Malnutrition
- Nephrotic syndrome

Additional conditions under which the test may be performed:

- Diabetic nephropathy/sclerosis
- Hepatic encephalopathy
- Hepatorenal syndrome
- Membranous nephropathy
- Tropical sprue
- Wilson's disease

Special considerations

If you are receiving large amounts of intravenous fluids, the results of this test may be inaccurate.

Albumin will be decreased during pregnancy.

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