Medical Encyclopedia: Albumin - serum

URL of this page: http://www.nlm.nih.gov/medlineplus/ency/article/003480.htm

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.

Update Date: 2/14/2005

Updated by: Christian Stone, MD, Division of Gastroenterology, Washington University in St. Louis School of Medicine, St. Louis, MO. Review provided by VeriMed Healthcare Network.

A.D.A.M., Inc. is accredited by URAC, also known as the American Accreditation HealthCare Commission (www.urac.org). URAC's accreditation program is the first of its kind, requiring compliance with 53 standards of quality and accountability, verified by independent audit. A.D.A.M. is among the first to achieve this important distinction for online health information and services. Learn more about A.D.A.M.'s editorial process. A.D.A.M. is also a founding member of Hi-Ethics (www.hiethics.com) and subscribes to the principles of the Health on the Net Foundation (www.hon.ch).

The information provided should not be used during any medical emergency or for the diagnosis or treatment of any medical condition. A licensed physician should be consulted for diagnosis and treatment of any and all medical conditions. Call 911 for all medical emergencies. Adam makes no representation or warranty regarding the accuracy, reliability, completeness, currentness, or timeliness of the content, text or graphics. Links to other sites are provided for information only -- they do not constitute endorsements of those other sites. Copyright 2005, A.D.A.M., Inc. Any duplication or distribution of the information contained herein is strictly prohibited.