



GENERAL HEALTH TESTING

Total Protein, Albumin & Globulin Information Sheet

Proteins in Blood

Proteins are important building blocks of all cells and tissues. They form the structural part of most organs, regulate body functions (enzymes and hormones), and are essential for body growth, development, and health. The majority of total protein in blood is from two major classes – albumin and globulin. Albumin prevents fluid from leaking out of blood vessels and transports hormones, vitamins, and other substances around the body. Globulins are important components of the immune system (1).

What is hyperproteinemia?

Elevated total protein levels (hyperproteinemia) can occur in cases of severe dehydration, some types of cancer (e.g. multiple myeloma), and chronic inflammation or infection (e.g. HIV and hepatitis B or C). Some drugs may also lead to hyperproteinemia, including anabolic steroids, androgens, growth hormone, insulin, and progesterone (2).

What influences albumin levels?

Thyroid hormone, corticosteroids, growth hormone, and insulin can increase albumin synthesis. Fasting, protein-deficient diets, liver disease, and intestinal malabsorption syndromes can cause a decrease in albumin synthesis. Accelerated losses of albumin can also occur due to nephrotic syndrome and severe burns because skin is an extra storage pool for albumin (1).

What is hypoproteinemia?

Reduced total protein levels (hypoproteinemia) can suggest a liver or kidney disorder, other disorders which affect protein digestion or absorption, or congestive heart failure which can increase the volume of plasma (thereby diluting the blood). Extensive bleeding, severe burns, malnutrition, and estrogens can also result in hypoproteinemia (1).

What influences globulin levels?

Increased immunoglobulins are the usual cause of elevated globulin, but other protein increases can also occur in certain pathologic states. Malnutrition, immune deficiency, and kidney disease can reduce globulin levels due to protein loss through the kidney (1). Additional testing is usually required to determine which globulin fraction is affected in individuals with increased or decreased globulin levels.

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Where can I find more info?

Visit www.genetrackdiagnostics.com for full test information, including specimen collection requirements

CONTACT US:

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References:

- (1) Busher JT. (1990). Serum Albumin and Globulin. In Walker HK, Hall WD, and Hurst JW, Clinical Methods: The History, Physical, and Laboratory Examinations. 3rd Ed. Boston : Butterworths.
- (2) Paricaud K, et al. (2014). Causes of protidemia above 100g/L. Eur J Intern Med, 25 (10), E123.
- (3) Deng Y, et al. (2016). Prognostic significance of pretreatment albumin/globulin ratio in patients with hepatocellular carcinoma. Onco Targets Ther, 9, 5317-5328.

NOTE:

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