

## Albumin

**Analyte:** Albumin

**Specimen Type:** Serum, Inquire for additional option(s)

**Optimum Volume:** 1.0 mL

**Stability:**

2-8 Degrees C	-20 Degrees C	-70 Degrees C
5 mo	6 months	Indefinitely

**Reporting Units:** g/dL

**Method:** Colorimetric

**Biological or Clinical Significance:**

Albumin is a carbohydrate-free protein, which constitutes 55–65% of total plasma protein. It maintains oncotic plasma pressure, provides transport and storage of a wide variety of ligands and is a source of endogenous amino acids. Albumin binds and solubilizes various compounds, e.g. bilirubin, calcium and long-chain fatty acids. Furthermore albumin is capable of binding toxic heavy metals ions as well as numerous pharmaceuticals, which is the reason why lower albumin concentrations in blood have a significant effect on pharmacokinetics.

Hyperalbuminemia is of little diagnostic significance except in the case of dehydration.

Hypoalbuminemia occurs during many illnesses and is caused by several factors: compromised synthesis due either to liver disease or as a consequence of reduced protein uptake; elevated catabolism due to tissue damage (severe burns) or inflammation; malabsorption of amino acids (Crohn's disease); proteinuria as a consequence of nephrotic syndrome; protein loss via the stool (neoplastic disease). In severe cases of hypoalbuminemia, the plasma albumin concentration is less than 2.5 g/dL. Because of the low osmotic pressure of hypoalbuminemic plasma, water permeates through blood capillaries into tissue (edema). The determination of albumin is often used in the effectiveness of patient dietary supplementation, and serves as a test of liver function. Regarding its use in nutritional assessment, albumin is a relatively poor index, and its use for this purpose should be discouraged.

**Principle of Test Method:**

The albumin assay is an automated colorimetric endpoint assay.