ALBUMIN

B.C.G. colorimetric test

Quantitative determination of albumin in serum/plasma
Only for *In Vitro* Diagnostic use

ORDER INFORMATION

REF	Cont.
ALB 100	2 X 50 ML
ALB 200	2 X 100 ML

CLINICAL SIGNIFICANCE

An observation of serum albumin level is useful as an aid in diagnosing disease states of the liver and kidneys. Moderate to large changes in the concentration of albumin have significant effects on the relative amounts of the bound and free concentrations of the ligands it carries: because free ligands are those that interact with tissue receptor sites and that can be excreted, albumin levels have important influences on the metabolism of endogenous substances such as calcium, bilirubin, and fatty acids and on the effects of drugs and hormones. Hypoalbuminemia is very common in many illnesses and results in most instances from one or more of the following factors: 1) impaired synthesis, 2) increased catabolism, 3) reduced absorption of amino acids, 4) altered distribution which may sequester large amounts of albumin in an extravascular compartment, 5) protein loss by way of urine or feces.

PRINCIPLE

Albumin in the presence of bromcresol green (BCG) at a slightly acid pH, produces a colour change of the indicator from yellow-green to green-blue. The intensity of the color formed is proportional to the albumin concentration in the sample.

REAGENT

Reagent I : BCG reagent
Albumin standard : 4 g/dl (store at 2-8°C)

SAMPLE COLLECTION AND PRESERVATION

Use non haemolysed serum collected without prolonged venous stasis. Specimen are stable for at least 20 days when stored at 2 - 8°C.

REAGENT PREPARATION

The reagent supplied is ready to use. Protect from Bright Light.

REAGENT STORAGE AND STABILITY

BCG Reagent is stable at R.T. (15-30°C) till the expiry mentioned on the label.
Albumin Standard is stable at 2-8°C till the expiry mentioned on the label.

EXPECTED VALUES

Serum/Plasma(Albumin)	3.5 - 5.2 g/dl
Globulin	2.3 – 3.6 g/dl
A/G Ratio	1.0 – 2.3

The reference values are to be considered as indicative only.
Every Laboratory should establish is own normal ranges.

AUTOMATED PARAMETERS	
Wavelength	620 nm
Cuvette	1 cm light path
Reaction Temperature	Room Temperature
Measurement	Against Reagent Blank
Reaction	End Point
Reaction Direction	Increasing
Sample Volume	5 µl
Reagent Volume	1000 µl
Incubation	5 minutes
Blank Abs. Limit	< 0.200
Low normal	3.5 g/dl
High Normal	5.2 g/dl
Linearity	8.0 g/dl

MANUAL ASSAY PROCEDURE

PIPETTE INTO TEST TUBES

	BLANK	STD	SAMPLE
Sample	-	-	5 µl
Standard	-	5 µl	-
Reagent	1000 µl	1000 µl	1000 µl

Mix well, and wait for 5 mins at Room Temperature. Measure the absorbance of the Sample (Abs. T) and Standard (Abs. S) against the reagent blank.

CALCULATION

$$\text{Albumin (g/dl)} = \frac{\text{Abs. T}}{\text{Abs. S}} \times \text{Standard Value (4)}$$

Globulin (g/dl) = Total Proteins (g/dl) – Albumin (g/dl)

$$\text{A/G Ratio} = \frac{\text{Albumin (g/dl)}}{\text{Globuline (g/dl)}}$$

LINEARITY

The method is linear to a concentration of 8.0 g/dl
If the concentration exceeds this value, the sample should be diluted 1:1 with 0.9% saline solution and reassayed. Multiply the result by 2.

Limit of detection: The limit of detection for Albumin is 0.1 g/dl.

QUALITY CONTROL

It is recommended to run a normal and a pathological control serum which is commercially available to verify the performance of the measured procedure. The value of controls should fall within the established limit.

BIBLIOGRAPHY

E.M. Gindler and J. O. Westgard Clin. Chem., (1973), 6,4.
J.O. Westgard, M.A. Poquette, Clin. Chem., (1973) 19, 647.

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