

ALBUMIN

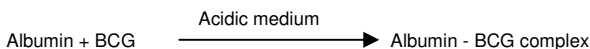
(BCG Method)

Intended Use

Albumin is a reagent kit used for the determination of Albumin in serum or plasma based on Bromocresol-Green (BCG) method. The reagents are for *in-vitro* diagnostic use.

Principle

Serum albumin in the presence of Bromocresol-green (BCG) under acidic condition forms a green colored complex. This complex absorbs light at 600 nm. The absorbance of this complex is proportional to the albumin concentration in serum/plasma.



Reagent provided

1. BCG Reagent- Ready to use Liqui Stable.
2. Standard - Albumin (3 gm/dl).

Reagent storage and stability

BCG reagent and standard are stable till the expiry date stated on the container label.

Specimen collection and preservation

Blood should be collected in a clean dry container. Avoid the use of plastic or siliconized container which may prolong clotting time. Serum is preferred but plasma can also be used. For plasma separation anticoagulants like EDTA or HEPARIN can be used. Avoid venous stasis while collecting blood. In absence of bacterial contamination, albumin is stable in sample for one week at room temperature and one month at 2° - 8°C.

Assay guidelines for Analyzers

Reaction type	End point with standard
Reaction slope	Increasing
Incubation time	5 min. at RT (25° - 30°C)
Wavelength	600 nm (570 - 650 nm)
Blank	Reagent Blank
Blank absorbance limit	< 0.100 Abs.
Sample volume	10 µl (0.01 ml)
Reagent volume	1000 µl (1.0 ml)
Std. concentration	3 gm/dl
Factor calculation	3 gm/dl ÷ Absorbance of Standard
Low Normal	3.2 gm/dl
High Normal	5.5 gm/dl
Linearity	Up to 6.0 gm/dl

Assay guidelines for Manual procedure

Bring the reagent and standard to room temperature before performing the assay.

Reagents	Blank	Standard	Sample
BCG Reagent	1000 µl (1.0ml)	1000 µl (1.0ml)	1000 µl (1.0ml)
Standard	-	10 µl (0.01 ml)	-
Sample	-	-	10 µl (0.01ml)

1. Mix thoroughly and incubate at room temperature (25° - 30°C) for 5 minute.
2. Read the absorbance against reagent blank at 600 nm (570 - 650 nm).
3. The final color is stable for 60 minutes if not exposed to direct light.

Calculation

$$\text{Alb. Con. in sample (gm/dl)} = \frac{\text{Sample OD}}{\text{Standard OD}} \times \text{Con. of Std.}$$

Normal Range

Guidance value : 3.2 - 5.5 gm/dl

Note: Expected range varies from population to population and each laboratory should establish its own normal range.

Limitation

- The reaction is linear up to 6 gm/dl. For higher value, dilute sample with normal saline and perform the assay. Multiply the final result by dilution factor to get the real value.
- The test is not influenced by bilirubin values up to 20 mg/dl. Each 100 mg/dl hemoglobin will represent an albumin increase of 0.1 gm/dl.
- Gross hemolysis and marked lipemia will interfere. A sample blank must be determined by pipetting 10 µl sample to 1.0 ml normal saline and measure against distilled water. The absorbance of the sample blank has to be subtracted from the absorbance of the sample.

Quality Control

To ensure adequate quality control, it is recommended that each batch should include a normal and an abnormal commercial reference control serum. It should be realized that the use of quality control material checks both instrument and reagent functions together. Factors which might affect the performance of this test include proper instrument function, temperature control, cleanliness of glassware and accuracy of pipetting.

References

1. Rodkey, F.L., Clin. Chem., 10 (1964) 606.
2. Doumas, B.T., Watson, W.A. and Biggs, H.G., Clin. Chem. Acta., 31(1971) 87.

Symbols

 IVD	In Vitro Diagnostics.	 Caution.	 Keep away from sun light.	 Date of Manufacture.
 LOT	Batch No.	 Read Instructions.	 Fragile.	 Product Expiry Date.
 CONT	Content.	 Storage Temperature.	 Keep Dry.	 Manufactured By.
 REF	Catalogue No.			



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