ALBUMIN
BCG Method- Colorimetric Test

IVD CE

PRODUCT CODE
CS001

INTENDED USE
This reagent is intended for in vitro quantitative determination of Albumin in human serum.

CLINICAL SIGNIFICANCE
Albumin is the most abundant protein constituent of serum. It is synthesized in the liver and is noted for its ability of configuration changes. This steric affinity allows the albumin molecule to serve as a carrier of many substances such as bilirubin, fatty acids, uric acid, various drugs, and antibiotics. Albumin also functions in the maintenance of proper osmotic pressure.
Elevated serum albumin levels are associated with possible dehydration. Low serum albumin levels are indicative of potential malnutrition, liver disease, kidney disorders, and rheumatoid arthritis.

PRINCIPLE
Serum albumin binds selectively to the dye bromocresol green at pH 4.2. The absorbance of the blue/green complex at 546 nm is proportional to the albumin concentration.

REAGENT COMPOSITION

Albumin (Liquid) Reagent

Citrate Buffer (pH4.2)	7.5 mmol/L
Bromocresol Green	150 µmol/L

Albumin Standard

Albumin standard concentration	4 g/dL

REAGENT PREPARATION
Reagent and standard are ready for use.

REAGENT STORAGE AND STABILITY
The color reagent and standard are stable up to the stated expiry date when stored at 2-8° C. Contamination after opening must be avoided. The reagent should be a clear yellow / green solution. If turbidity or precipitation has occurred the reagent should be discarded.

SPECIMEN
Serum, heparinized or EDTA plasma
Stability in serum at 2-8°C for 1 month at 15-25° for 1 week

PRECAUTION
To avoid contamination, use clean laboratory wares.
Avoid direct exposure of reagent to light.

ASSAY

Wavelength	:	546nm
Cuvette	:	1 cm light path
Temperature	:	20-25°C
Measurement		Against reagent blank

PROCEDURE

Pipette in to cuvette	Blank	Standard	Sample
Albumin Reagent	1000 µL	1000 µL	1000 µL
Standard	--	10 µL	--
Sample	--	--	10 µL
Mix and incubate for 5 minutes at 20-25°C.Measure the absorbance of the sample (As) and standard (Astd) against the reagent blank within 30 minutes.			

CALCULATION

$$\text{Serum Albumin (g/dL)} = \frac{\Delta A \text{ sample}}{\Delta A \text{ standard}} \times 4 \text{ (Std.conc.)}$$

LINEARITY
The test is linear up to a concentration of 7g/dL. If a higher albumin concentration is expected, dilute sample 1+1 with physiological saline. Repeat the estimation and multiply the result by 2.

NORMAL RANGE
It is recommended that each laboratory establish its own reference values. The following value may be used as guide line.

Serum Albumin: 3.8 - 5.1 g/dL

QUALITY CONTROL
All control sera with Albumin value estimated by this method can be used.

NOTES
1- The test is not influence by bilirubin values up to 20 mg/dl.
2- In case of excessive lipemic a sample blank should be prepared by adding 0.025 ml of serum to 2.5 ml of 0.9 % saline. The absorbance of the sample blank is subtracted from the absorbance of the sample.
3- Avoid excessive haemolysis since every 100 mg/dl of haemoglobin corresponds to about 100 mg/dL of Albumin.
4- The color reagent and standard contain sodium azide. Do not swallow. Avoid contact with skin and mucous membrane.

SYMBOL ON LABELS

Symbols	Signify	Symbols	Signify
REF	Catalogue Number	SIZE	Pack Size
	Expiry Date	VOL	Volume
	Storage Condition	LOT	Lot Number
	Instruction for Use	IVD	In Vitro Diagnostics
	Manufacturing Date		Manufacturer
Σ	Number of Tests	2	For Single Use Only
EC REP	EC Representative	CE	European conformity

BIBLIOGRAPHY

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