



ALBUMIN KIT

(BCG Method)

(For veterinary invitro diagnostic use only)

INTENDED USE

QUADRAPED™ Albumin kit is used for the determination of Albumin in serum or plasma.

SUMMARY

Albumin consists of approximately 60% of the total proteins in the body, the other major part being globulin. It is synthesized in the liver and maintains the osmotic pressure in blood. Albumin also helps in the transportation of drugs, hormones and enzymes. Elevated levels are rarely seen and are usually associated with dehydration. Decreased levels are seen in liver diseases (Hepatitis, Cirrhosis). Malnutrition, kidney disorders, increased fluid loss during extensive burns and decreased absorption in gastro-intestinal diseases.

PRINCIPLE

Albumin binds with the dye Bromocresol Green in a buffered medium to form a green coloured complex. The intensity of the colour formed is directly proportional to the amount of albumin present in the sample.



EXPECTED VALUES

Species	Albumin (g/dl)
Dog	2.3 -3.1
Cat	2.8 -3.9
Cow	2.5 -3.8
Horse	2.6 - 4.1
Pig	1.9 -3.9
Sheep	2.4 -3.0
Goat	2.7 -3.9
Rabbit	2.7 -5.0
Buffalo	3.0 -4.5

It is recommended that each laboratory establish its own range as reference ranges may vary between laboratories.

PRESENTATION

REF	1126010025
Pack Size	25 ml
Carton 1 L1 BCG Reagent	25 ml
Carton 2 S Albumin Standard (4 g/dl)	5 ml

COMPOSITION

Succinate Buffer 100mM; pH 4.0.; Bromocresol Green 0.20mM; Detergent.

STORAGE/STABILITY

Carton 1: BCG Reagent is stable at 23-29°C till the expiry mentioned on the label.

Carton 2: Albumin Standard is stable at 2-8°C till the expiry mentioned on the label.

REAGENT PREPARATION

Reagents are ready to use. Protect from bright light.

SAMPLE MATERIAL

Serum, EDTA, plasma. Albumin is reported to be stable in the sample for 6 days at 2-8°C.

SAMPLE WASTE AND DISPOSAL

Do not reuse the reagent containers, bottles, caps or plugs due to the risks of contamination and the potential to compromise reagent performance.

Appropriate biosafety practices should be used for materials that contain or are suspected of containing infectious agents.

Handle specimens, solid and liquid waste and test components in accordance with local regulations and NCCLS guidelines M29, or other published biohazard safety guidelines.

MATERIALS REQUIRED BUT NOT PROVIDED

Photometer analyzer with standard thermostatic cuvette holder, micropipette and appropriate laboratory equipment.

PROCEDURE

Wavelength / filter : 630 nm (Hg 623 nm) / Red
 Temperature : R.T.
 Light path : 1 cm

Pipette into clean dry test tubes labelled as Blank (B), Standard (S), and Test (T):

Addition Sequence	B (ml)	S (ml)	T (ml)
BCG reagent (L1)	1.0	1.0	1.0
Distilled Water	0.01	-	-
Albumin Standard (S)	-	0.01	-
Sample	-	-	0.01

Mix well and incubate at R.T. for 5 mins. Measure absorbance of the Standard (Abs.S) and Test Sample (Abs.T) against the Blank.

CALCULATIONS

$$\text{Albumin in g/dl} = \frac{\text{Abs.T}}{\text{Abs.S}} \times 4$$

$$\text{Globulin in g/dl} = (\text{Total Proteins (in g/dl)}) - (\text{Albumin (in g/dl)})$$

$$\text{A/G Ratio} = \frac{\text{Albumin in g/dl}}{\text{Globulin in g/dl}}$$

QUALITY CONTROL

The following process is recommended for QC during the assay of Albumin. *Define and establish acceptable range for your laboratory.

- Two levels of control (Normal and Abnormal) are to be run on a daily basis.
- If QC results fall outside acceptance criteria, re-calibration may be necessary.
- Review QC results and run acceptance criteria following a change of reagent/lot.

SPECIFIC PERFORMANCE CHARACTERISTICS

LOB: 0.024 g/dl at 630 nm

LOD : 0.1 g/dl at 630 nm

LOQ : 0.25 g/dl at 630 nm

Lower Limit : 0.1 g/dl

Higher Limit : 7 g/dl

If values exceed this limit, dilute the sample with distilled water and repeat the assay. Calculate the value using the proper dilution factor.

Interferences:

Sample when spiked with interferent such as upto 20mg/dl bilirubin, 1000mg/dl intralipid and 200mg/dl haemoglobin does not affect the ability of the kit to determine the albumin concentration.

Precision:

Within run

Within run	n	Mean	SD	% CV
Sample 1	10	4.06	0.026	0.64
Sample 2	10	3.18	0.030	1.07
Sample 3	10	4.99	0.095	1.89

Between run

Between run	n	Mean	SD	% CV
Sample 1	10	4.06	0.03	0.70
Sample 2	10	3.17	0.03	0.89
Sample 3	10	4.99	0.09	1.80

Method comparison:

Comparative studies were done to compare our reagent with another commercial Albumin Assay. No significant differences were observed. Details of the comparative study are available on request.

NOTE

In vitro diagnostic reagent for laboratory and professional use only Not for medicinal use. The reagent contain sodium azide 0.1% as preservative. Avoid contact with skin and mucosa. On disposal flush with large quantities of water. Only clean and dry glassware must be used. Gross hemolysis, ampicillin and heparin interfere with the results. Elevated bilirubin and lipemic samples may have a slight effect on accuracy. For grossly lipemic samples run a sample blank by adding 0.02 ml sample in 2 ml distilled water. Read the absorbance against D.W. and subtract the blank absorbance from the test absorbance. Do not use turbid, deteriorated or leaking reagents.

REFERENCES

- Doumas, B.T, Watson, W.A., (1971) Clin Chem. Acta 31: 87.
- Tietz, Clinical Chemistry, 2nd Edition, Saunders (1991), p:477-540.
- Clinical Chemistry, Principles, Procedures, Correlations, Michael L. Bishop et. al., 5th Edition.
- Duncan and Prasse's Veterinary Laboratory Medicine: Clinical Pathology, Kenneth S. Latimer, ISBN Jane Wardrop, 6th Edition - 2010.
- Clinical Biochemistry of Domestic Animals, Sixth Edition, 2008 by Kaneko J.J., Harvey J.W. & Bruss M.L.
- Data on file: Coral Clinical Systems.

System Parameters

Reaction	: End Point	Interval	: ---
Wavelength	: 630 nm	Sample Vol.	: 0.01 ml
Zero Setting	: Reagent Blank	Reagent Vol.	: 1.00 ml
Incub. Temp.	: R. T.	Standard	: 4 g/dl
Incub. Time	: 5 min.	Factor	: ---
Delay Time	: ---	React. Slope	: Increasing
Read Time	: ---	Linearity	: 7 g/dl
No. of read.	: ---	Units	: g/dl

SYMBOL KEYS

Use by (Last day of stated month)	Manufacturer	In vitro Diagnostic Medical Device	BCG Reagent Store at 23-29°C	Bromocresol Green Method
Date of Manufacture	Consult Instructions for use	Batch Number	Albumin Standard (4 g/dl) Store at 2-8°C	This way up
Catalogue Number				



Coral Clinical Systems

A Division of Tulip Diagnostics (P) Ltd.

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