Albumin (BCG) Microplate Assay Kit

User Manual

Catalog # CAK1150

(Version 1.3A)

Detection and Quantification of Albumin Content in Urine, Serum, Plasma, Other biological fluids Samples.

For research use only. Not for diagnostic or therapeutic procedures.

I. INTRODUCTION

Albumin is the most abundant plasma protein in human. It accounts for about 60% of the total serum protein. Albumin plays important physiological roles, including maintenance of colloid osmotic pressure, binding of key substances such as long-chain fatty acids, bile acids, bilirubin, haematin, calcium and magnesium. It has anti-oxidant and anticoagulant effects, and also acts as a carrier for nutritional factors and drugs, as an effective plasma pH buffer. Serum albumin is a reliable prognostic indicator for morbidity and mortality, liver disease, nephritic syndrome, malnutrition and protein-losing enteropathies. High levels are associated with dehydration.

Albumin (BCG) Microplate Assay Kit is designed to measure albumin directly in biological samples without any pretreatment. The improved method utilizes bromcresol green that forms a colored complex specifically with albumin. The intensity of the color, measured at 630nm, is directly proportional to the albumin concentration in the sample.

II. KIT COMPONENTS

Component	Volume	Storage
96-Well Microplate	1 plate	
Dye Reagent	Powder x 1	4 °C
Standard	Powder x 1	-20 °C
Technical Manual	1 Manual	

Note:

Dye Reagent: add 20 ml distilled water to dissolve before use. Store diluted standards at 4 °C.

Standard: add 0.5 ml distilled water to dissolve, the concentration will be 100 mg/ml. Store diluted standards at -20 °C.

III. MATERIALS REQUIRED BUT NOT PROVIDED

1. Microplate reader to read absorbance at 630 nm
2. Distilled water
3. Pipettor, multi-channel pipettor
4. Pipette tips
5. Centrifuge
6. Timer

IV. SAMPLE PREPARATION

1. For serum, plasma or blood samples

Dilute serum and plasma samples with distilled water, then detect directly.

V. ASSAY PROCEDURE

Add following reagents in the microplate:

Reagent	Sample	Standard	Blank
Sample	2 µl	--	--
Standard	--	2 µl	--
Distilled water		--	2 µl
Dye Reagent	200 µl	200 µl	200 µl
Mix, incubate 5 min at room temperature, record absorbance measured at 630 nm.			

Note:

1) Perform 2-fold serial dilutions of the top standards to make the standard curve.

2) The concentrations can vary over a wide range depending on the different samples. For unknown samples, we recommend doing a pilot experiment & testing several doses to ensure the readings are within the standard curve range.

3) Reagents must be added step by step, can not be mixed and added together.

VI. CALCULATION

1. According to the volume of sample

$$\text{Albumin (mg/ml)} = C_{Standard} \times V_{Standard} \times (OD_{Sample} - OD_{Blank}) / (OD_{Standard} - OD_{Blank}) / V_{Sample}$$

$$= 100 \times (OD_{Sample} - OD_{Blank}) / (OD_{Standard} - OD_{Blank})$$

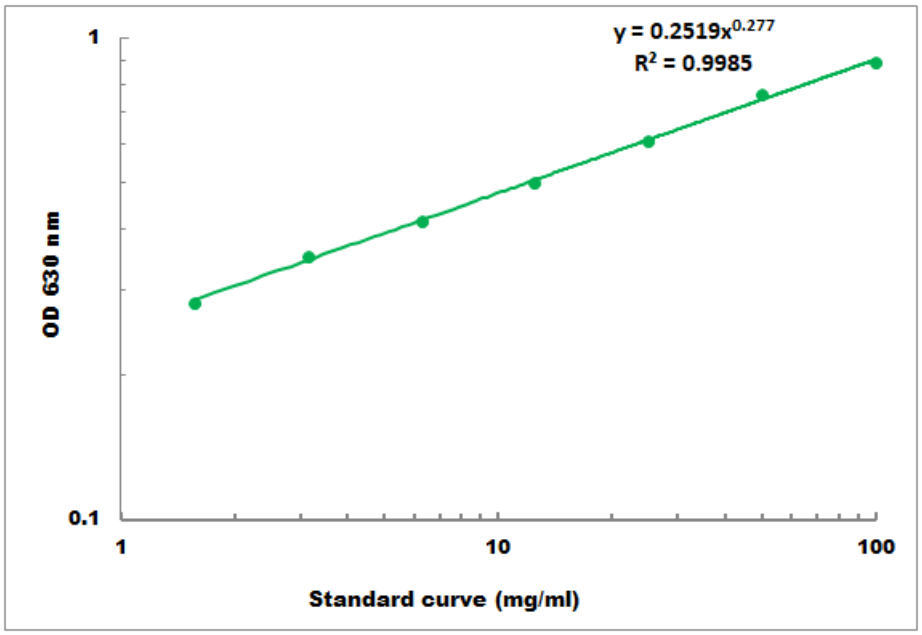
$C_{Standard}$: the standard concentration, 100 mg/ml;

$V_{Standard}$: the volume of standard, 0.002 ml;

V_{Sample}: the volume of sample, 0.002 ml.

VII. TYPICAL DATA

The standard curve is for demonstration only. A standard curve must be run with each assay.



Detection Range: 1 mg/ml - 100 mg/ml

VIII. TECHNICAL SUPPORT

For troubleshooting, information or assistance, please go online to www.cohesionbio.com or contact us at techsupport@cohesionbio.com

IX. NOTES