Albumin (BCP)

Colorimetric Microplate Assay Kit

User Manual

Catalog # CAK1151

(Version 1.4A)

Detection and Quantification of AlbuminContentin Urine, Serum, Plasma, Other biological fluidsSamples.

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 reliableprognostic indicator for morbidity and mortality, liver disease, nephritic syndrome, malnutrition and protein-losing enteropathies. High levels are associated with dehydration.

Albumin (BCP) Colorimetric Microplate Assay Kit is designed to measure albumin directly in biological samples without any pretreatment. The improved method utilizes bromcresol purple that forms a colored complex specifically with albumin. The intensity of the color, measured at 610nm, is directly proportional to the albumin concentration in the sample.

II.KIT COMPONENTS

Component	Volume	Storage
96-Well Microplate	1 plate	
Dye Reagent	15 ml x 1	4 °C, keep in dark
Standard	Powder x 1	-20 °C
Technical Manual	1 Manual	

III. MATERIALS REQUIRED BUT NOT PROVIDED

1. Microplate reader to read absorbance at 610 nm
2. Distilled water
3. Pipettor, multi-channel pipettor
4. Pipette tips
5. Centrifuge
6. Timer

IV. REAGENT PREPARATION

Standard: Briefly centrifuge prior to opening.Dissolvein1 ml distilled waterto generate50 mg/ml of standardtop solution. Store at 4 °C for 1 week or -20°C for 6 monthsafter reconstitution.Then perform 2-fold serial dilutions of the top standardsolution using distilled waterto make the standard curve.The concentration of standard curve could be50/25/12.5/6.25/3.12/ 1.56/0.78mg/ml.

V. SAMPLE PREPARATION

1.For serum,plasmaor blood samples

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

VI. ASSAY PROCEDURE

Add following reagents in the microcentrifuge tube:

Reagent*	Sample**	Standard	Blank
Sample	50µl	--	--
Standard	--	50µl	--
Distilled water	--	--	50µl
Dye Reagent	150 µl	150 µl	150 µl
Mix, incubate 5 min at room temperature,record absorbance measured at 610 nm.			

Note:

*Reagents must be added sequentially and should not be premixed prior to addition.

**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.

VII. CALCULATION

1. Calculatethe sample concentration in ASSAY PROCEDURE according to the slope of the standard curve

$$C=\frac{(OD_{Sample}-OD_{Blank})-Intercept}{Slope}\times n(mg/ml)$$

Calculate the initial concentration according to sample preparation procedure.

2. According to one point of the standard OD and concentration

According to the volume of sample

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

Slope: the absorbance slope of standard curve

n: the dilution factor

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

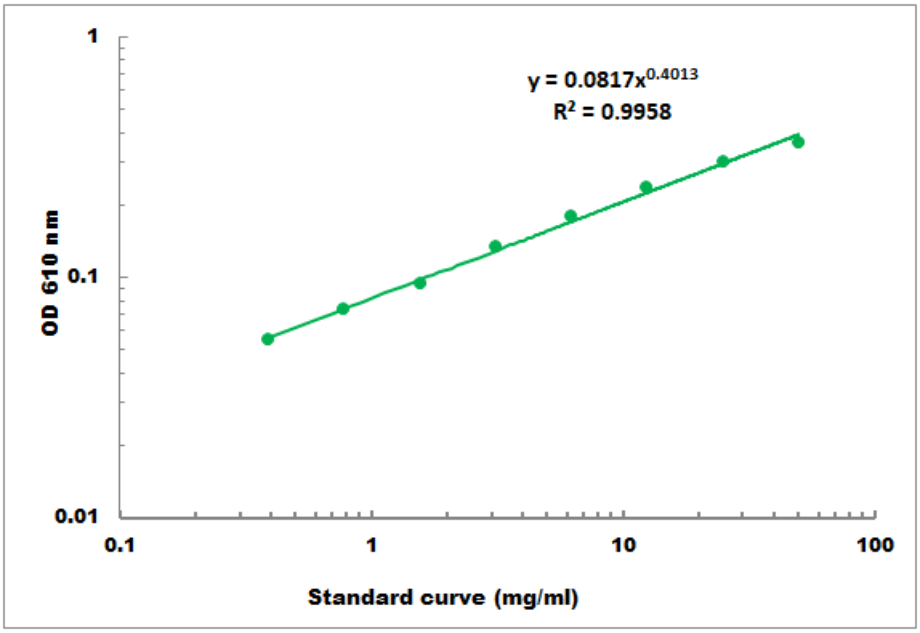
$V_{Standard}$: the volume of standard in assay procedure, µl

V_{Sample}: the volume of sample in assay procedure, µl

V_{Assay}: the volume of Assay Buffer, µl

VIII. TYPICAL DATA

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



Detection Range: 0.5mg/ml -50 mg/ml