

Albumin (BCP) Microplate Assay Kit

Cat #: orb545620 (manual)

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

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

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 (BCP) Microplate Assay Kit is designed to measure albumin directly in biological samples without any pretreatment. The improved method utilizes bromocresol 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.

KIT COMPONENTS

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

Note:

Standard: add 1 ml distilled water to dissolve, the concentration will be 50 mg/ml. Store diluted standards at -20 °C.

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



Explore. Bioreagents.

www.biorbyt.com

SAMPLE PREPARATION

1. For serum, plasma or blood samples

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

ASSAY PROCEDURE

Add following reagents in the microcentrifuge tube:

Reagent	Sample	Standard	Blank
Sample	50 μ l	--	--
Standard	--	50 μ l	--
Distilled water	--	--	50 μ l
Dye Reagent	150 μ l	150 μ l	150 μ l

Mix, incubate 5 min at room temperature, record absorbance measured at 610 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.

CALCULATION

1. According to the volume of sample

$$\begin{aligned}\text{Albumin (mg/ml)} &= C_{\text{Standard}} \times V_{\text{Standard}} \times (\text{OD}_{\text{Sample}} - \text{OD}_{\text{Blank}}) / (\text{OD}_{\text{Standard}} - \text{OD}_{\text{Blank}}) / V_{\text{Sample}} \\ &= 50 \times (\text{OD}_{\text{Sample}} - \text{OD}_{\text{Control}}) / (\text{OD}_{\text{Standard}} - \text{OD}_{\text{Blank}})\end{aligned}$$

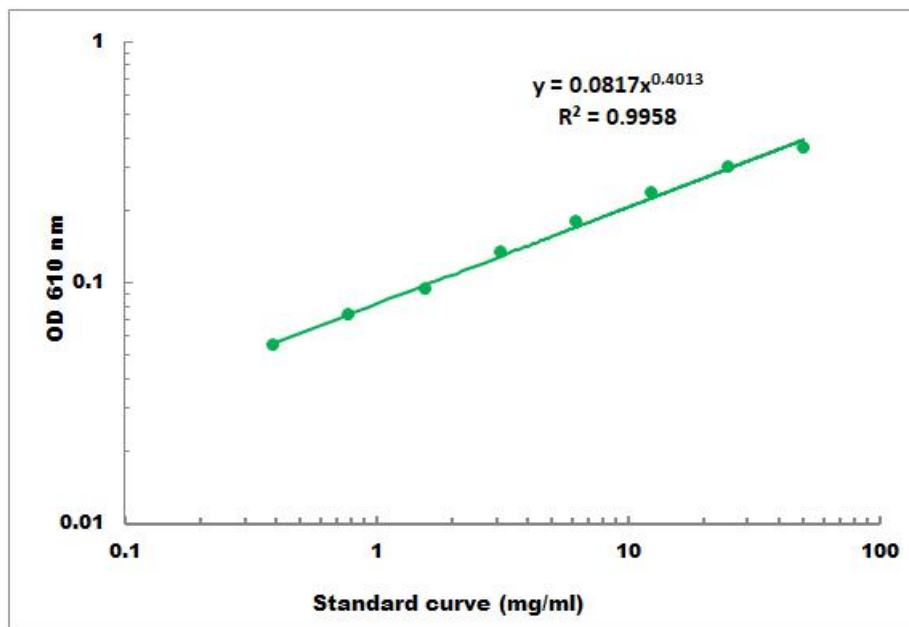
C_{Standard} : the standard concentration, 50 mg/ml;

V_{Standard} : the volume of standard, 0.05 ml;

V_{Sample} : the volume of sample, 0.05 ml.

TYPICAL DATA

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



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