

BCP Albumin Assay Kit (Colorimetric)

LS-K203-250 (250 Tests) • See Storage Conditions Below



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, 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.

Simple, direct and automation-ready procedures for measuring albumin concentration in biological samples are becoming popular in Research and Drug Discovery. This BCP albumin 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. The optimized formulation substantially reduces interference by substances in the raw samples.

Key Features

- Sensitive and accurate. Use as little as 20 μ L samples. Detection range 0.3 - 5 g/dL (45 - 750 μ M) albumin in 96-well plate assay.
- Simple and high-throughput. The procedure involves addition of a single working reagent and incubation for 5 min. Can be readily automated as a high-throughput assay for thousands of samples per day.
- Improved reagent stability and versatility. The optimized formulation has greatly enhanced reagent and signal stability. Cuvette or 96-well plate assay.
- Low interference in biological samples. No pretreatments are needed. Assays can be directly performed on raw biological samples i.e., in the presence of lipid and protein.

Applications

- Direct Assays: albumin in serum, urine, biological preparations.
- Drug Discovery/Pharmacology: effects of drugs on albumin metabolism.

Components

Component	K203-250
	250 Tests
Reagent	50 mL
Albumin Standard (5 g/dL BSA)	2 mL

Materials Not Supplied

Albumin standards other than BSA (e.g. human (Sigma cat # A9511), mouse (Sigma cat # A3139), rat (Sigma cat # A6414)). Pipetting devices and accessories, clear flat bottom 96-well plates (e.g. VWR cat # 82050-760) and plate reader or spectrophotometer and cuvettes for measuring OD at 610 nm.

FOR RESEARCH USE ONLY! Not for use in humans.

LifeSpan BioSciences, Inc. • 2401 Fourth Avenue, Suite 900, Seattle, WA 98121

www.LSBio.com • (206) 464-1554 • TechnicalSupport@LSBio.com

BCP Albumin Assay Kit (Colorimetric)

LS-K203-250 (250 Tests) • See Storage Conditions Below



Storage

The kit is shipped at room temperature. Store Reagent and standard at 4°C and -20°C, respectively. Shelf life: 12 months after receipt.

Assay Procedure

Reagent Preparation

Important: bring reagents to room temperature and shake before use.

Procedure Using 96-well Plate

Note: Bromcresol purple reacts differently with albumins from different species. Use albumin from the species of the samples being tested as the standard. For example for human samples, use HSA (Sigma Cat. No. A9511). If not measuring BSA, Prepare a 5 g/dL stock of the appropriate albumin in dH₂O.

1. Dilute standards in distilled water as follows.

No	STD + H ₂ O	Vol (μL)	Albumin (g/dL)
1	100 μL + 0 μL	100	5.0
2	80 μL + 20 μL	100	4.0
3	60 μL + 40 μL	100	3.0
4	40 μL + 60 μL	100	2.0
5	30 μL + 70 μL	100	1.5
6	20 μL + 80 μL	100	1.0
7	10 μL + 90 μL	100	0.5
8	0 μL + 100 μL	100	0

Dilute serum samples 2 fold. Transfer 20 μL diluted standards and diluted samples to wells of a clear bottom plate. Store diluted standards at -20°C for future use.

2. Add 200 μL working reagent and tap lightly to mix. Avoid bubble formation!
3. Incubate 5 min at room temperature and read optical density at 590-630 nm (peak absorbance at 610 nm).

Procedure Using Cuvette

1. Transfer 60 μL Blank, Standards and samples to appropriately labeled tubes. Add 1000 μL working reagent and tap lightly to mix. Incubate 5 min at room temperature.
2. Transfer to cuvette and read optical density at 610nm.

Important: if sample OD is higher than the OD for standard, dilute samples in distilled water and repeat the assay.

Calculations

Subtract blank OD (water, #8) from the standard OD values and plot the OD against standard concentrations. Use the standard curve to determine the sample albumin concentration.

Conversions: 0.1 g/dL albumin equals 15 μM, 0.1% or 1000 ppm.

FOR RESEARCH USE ONLY! Not for use in humans.

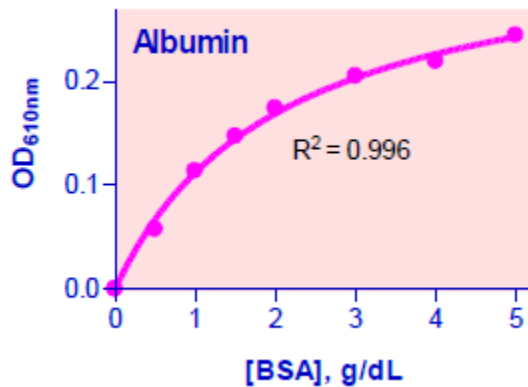
LifeSpan BioSciences, Inc. • 2401 Fourth Avenue, Suite 900, Seattle, WA 98121

www.LSBio.com • (206) 464-1554 • TechnicalSupport@LSBio.com

BCP Albumin Assay Kit (Colorimetric)

LS-K203-250 (250 Tests) • See Storage Conditions Below

Sample Data



Standard Curve in 96-well plate assay

Version: V.08.09.2018

FOR RESEARCH USE ONLY! Not for use in humans.

LifeSpan BioSciences, Inc. • 2401 Fourth Avenue, Suite 900, Seattle, WA 98121

www.LSBio.com • (206) 464-1554 • TechnicalSupport@LSBio.com