BCA Protein Assay Kit

Cat.:BR4C201

V01

Product Description

BCA Protein Assay Kit is designed for accurate determination of protein concentration in test samples. In an alkaline environment, proteins reduce Cu^{2+} to Cu^{+}, and 2,2'-bicinchoninic acid (BCA) specifically chelates Cu^{+} to form a stable purple complex. Within an appropriate concentration range, color intensity is directly proportional to protein concentration. By generating a standard curve with the protein standard supplied in the kit and using a colorimetric assay, protein concentration in test samples can be determined rapidly and accurately. This kit provides stable and reliable performance. The linear fitting coefficient of the standard curve is $R^2 \geq 0.99$, the relative standard deviation (RSD) of duplicate measurements for standards and test samples is ≤ 10%, and the in-house quality-control sample error is ≤ 10%, helping ensure accurate and dependable protein quantification.

Components

Components	BR4C201-01 250 T	BR4C201-02 500 T	BR4C201-03 2500 T
BSA Standard (1 mg/mL)	2×1 mL	4×1 mL	20×1 mL
Reagent A	50 mL	100 mL	5×100 mL
Reagent B	1 mL	2×1 mL	10×1 mL

Storage

Store BSA Standard (1 mg/mL) at -20±5°C. Store Reagent A and Reagent B at 5-30°C.

After transport at 2-8°C, store each component under its specified storage condition upon receipt.

Notes

1. For Research Use Only. Not for use in diagnostic procedures.
2. Mix thoroughly before use. Avoid repeated freeze-thaw cycles.
3. In the BCA assay, color development continues to increase over time and the reaction rate is temperature dependent. During sample measurement, keep the laboratory temperature as constant as possible and strictly control the reaction and measurement times.
4. This manual is designed for microplate reader detection. If suitable accessories are available in the laboratory, a UV-visible spectrophotometer may also be used for absorbance measurement.
5. Avoid repeated freeze-thaw cycles of the protein standard. Use it as soon as possible after opening.
6. For your safety and health, please wear a lab coat and disposable gloves when operating.

Protocol

1. Preparation of BCA working reagent: according to the number of samples to be tested, mix BCA Reagent A and Reagent B at a volume ratio of 50:1 immediately before use.
2. BSA protein standards: prepare a microplate and dilute the 1 mg/mL BSA standard according to the table below. Add the standards to the wells in duplicate.

Vial	1 mg/mL BSA (μL)	ddH_2O (μL)	Final Protein Concentration (μg/mL)
STD 1	0	50	0
STD 2	1	49	20
STD 3	2	48	40
STD 4	4	46	80
STD 5	6	44	120
STD 6	8	42	160
STD 7	10	40	200
STD 8	15	35	300

Zhuhai Biori Biotechnology Co.,Ltd
Tel: +86-0756-8699969 Web: www.biori-en.com Email: marketing@biori-en.com
Addr:No. 88, Shui' an 1st Road, Xiangzhou District, Zhuhai, Guangdong 519060, China

3. Dilute the test sample appropriately so that the protein concentration of the diluted sample falls within the linear range of the standard curve. Add 50 μL of each diluted sample to the microplate in duplicate.
4. Add 200 μL of BCA working reagent to each BSA standard well and each test-sample well, then shake to mix thoroughly.
5. Incubate the microplate at 37°C for 30 min.
6. Remove the microplate and cool it at room temperature for 10 min.
7. Measure the OD_{562} value of each sample with a microplate reader set to 562 nm.
8. Data processing: a. Plot the OD values of the BSA protein standards on the y-axis against the corresponding protein concentrations on the x-axis to obtain the standard linear equation. b. Substitute the OD value of each test sample into the standard equation to calculate the initial protein concentration, then multiply by the dilution factor to obtain the final protein concentration of the test sample.