Micro BCA Protein Assay Kit

Product Description:

BCA stands for Bicinchoninic Acid Assay, which is a protein quantification method based on the biuret principle. Under alkaline conditions, the protein peptide bond reduces Cu^{2+} in copper sulfate to Cu^{+}, and then BCA chelates Cu^{+} to form a purple complex that strongly absorbs light at a wavelength of 562 nm. The color of the chelate is related to the protein concentration, and the amount of Cu^{2+} or Cu^{+} obtained is proportional to the amount of protein present in the solution, so the protein concentration to be measured can be obtained by measuring the protein absorbance value.

This kit is designed for protein quantification of low protein concentration samples and can measure the total protein concentration of diluted protein solution (0.5~20 μg/mL). This kit has the characteristics of simple operation, high stability, high sensitivity, and high compatibility, and has good compatibility with a variety of ionic and non-ionic detergents.

Composition and storage conditions

Components	K4102-500 T	K4102-2000 T
Reagent A	40 mL	160 mL
Reagent B	38 mL	150 mL
Reagent C	2 mL	6 mL
Bovine serum albumin (BSA)	6 mg	15 mg
BCA Protein Assay Reagent	15 mL	35 mL
Store Reagent B at 4°C away from light and the other components at 4°C for a year.		

Experimental manipulation

1. Preparation of protein standards (500 T as an example).

a) Add 3 mL of BCA Protein Assay Reagent to a tube of Bovine serum albumin (6 mg), dissolve thoroughly, and make a 2 mg/mL protein standard solution. It can be used immediately after formulation or can be stored at -20°C for long periods of time. *Note: Other protein standards are configured according to the final concentration of 2 mg/mL.*

b) Seven protein standard concentrations of 0, 2, 5, 10, 20, 40, and 200 μg/mL were prepared according to

the table below. Take care to mix well each time you dilute it.

Numbering	Dilute the volume of liquid	Standard volume	Final concentration
A	4.5 mL	2 mg/mL BSA 0.5 mL	200 μg/mL
B	8 mL	Take 2 mL from tube A	40 μg/mL
C	4 mL	Take 4 mL from tube B	20 μg/mL
D	4 mL	Take 4 mL from tube C	10 μg/mL
E	4 mL	Take 4 mL from tube D	5 μg/mL
F	3 mL	Take 2 mL from the E tube	2 μg/mL
G	5 mL	0 mL	0 μg/mL

2. BCA working fluid configuration.

According to the number of samples, according to the volume ratio of Reagent A: Reagent B: Reagent C = 26:25:1, prepare an appropriate amount of BCA working solution, and mix well. The BCA working solution is stable within 8 hours at room temperature.

3. Protein concentration determination

a) 150 μL of different concentrations of protein standards were added to the protein standard wells of the 96-well plate.

b) Place 150 μL of sample in the sample well of a 96-well plate. If the sample is less than 150 μL, add the standard dilution to 150 μL and note the sample volume.

c) Add 150 μL of BCA working solution to each of the above wells and incubate at 37°C for 2 h.

d) Cool to room temperature.

e) The absorbance at A562 was determined with a microplate reader.

f) The protein concentration in the sample is calculated from the standard curve and the sample volume used.

Precautions

1. Measurement range: 0.5~20 μg/mL for spectrophotometry and 2~40 μg/mL for microplate plate.
2. Compatible with most ionic or non-ionic detergents.
3. Protein standards should be mixed first after all are dissolved, and then diluted into a series of protein standards of different concentrations.
4. This product is for scientific research purposes only.

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