

Ceruloplasmin (CP) Activity Assay Kit

Mix thoroughly, incubate at 37°C for 5 min.

Reagent III (mL)

0.4

0.4

Note: Before the experiment, it is recommended to select 2-3 sample with large expected differences for pre-experiment.

Operation Equipment: Spectrophotometer

Catalog Number: BC1300

Size: 50T/24S

Product Composition: Before use, please carefully check whether the volume of the reagent is consistent with the volume in the bottle. If you have any questions, please contact Solarbio staff in time.

Reagent name	Size	Storage
Reagent I	Solution 15 mL×1	2-8°C
Reagent II	Solution 10 mL×1	2-8°C
Reagent III	Solution 20 mL×1	2-8°C

Solution preparation:

Reagent III: Before use, take an appropriate amount of reagent based on the sample size and preheat it in a 37°C water bath/constant temperature incubator for 15 minutes.

Product Description

Ceruloplasmin is copper-containing protein in plasma, which has the function of transporting copper and the activity of oxidase. It is an important antioxidant in extracellular fluid.

Ceruloplasmin catalyzes 3,3',5,5'-tetramethylbenzidine to form blue products with characteristic absorption peaks at 645 nm, and thus the activity of ceruloplasmin can be obtained.

Reagents and Equipment Required but Not Provided.

Spectrophotometer, 1 mL glass cuvette, water bath/constant temperature incubator, adjustable pipette and distilled water.

Sample Preparation

Serum (plasma): direct detection.

Procedure and Sample List

1. Preheat the spectrophotometer for more than 30 minutes, adjust the wavelength to 645 nm, and set zero with distilled water.

2. Operation table:

Reagent Name	Control Tube (A _C)	Test Tube (A _T)
Sample (mL)	0.1	0.1
Reagent I (mL)	0.3	0.3
Reagent II (mL)	0.2	-

Mix thoroughly, incubate at 37°C for 30 min.

Reagent II (mL)

-

0.2

Mix thoroughly, place at room temperature for 5min, and take 1 mL in 1 mL glass cuvette. Measure at 645 nm absorbance value, $\Delta A = A_T - A_C$. Each test tube needs to be provided with a control tube.

Calculations

Unit definition: One unit of enzyme activity is defined as each minute per milliliter of sample reacts with the substrate resulting in an increase of absorbance of 0.01 at 37°C in 1 mL reaction system.

$$C_p \text{ activity (U/mL)} = \Delta A \times (V_r \div 1) \div 0.01 \div T \div V_s = \Delta A \div 0.03$$

T: Reaction time, 30 min;

V_s: Sample volume, 0.1 mL;

V_r: Total reaction volume, 1 mL;

1: 1 mL Reaction system conditions.

Notes:

Solution II and Solution III have certain toxicity and irritation. Please take protective measures when operating.

Recent Product Citations:

[1] Kang K, Zeng L, Ma J, Shi L, Hu R, Zou H, Peng Q, Wang L, Xue B, Wang Z. High energy diet of beef cows during gestation promoted growth performance of calves by improving placental nutrients transport. *Front Vet Sci.* 2022 Nov 24;9:1053730. doi: 10.3389/fvets.2022.1053730. PMID: 36504847; PMCID: PMC9730878.

Related products:

BC1310/BC1315 Total antioxidant capacity (T-AOC) Assay Kit

BC1320/BC1325 Hydroxyl Radical Scavenging Capacity Assay Kit

BC1330/BC1335 Plant Flavonoids Assay Kit

BC1340/BC1345 Plant Total Phenol (TP) Assay Kit