

Ceruloplasmin (CP) Assay Kit

Note: Take two or three different samples for prediction before test.

Operation Equipment: Spectrophotometer/microplate reader

Catalog Number: BC1305

Size: 100T/48S

Components:

Reagent I: Liquid 10 mL×1. Storage at 4°C.

Reagent II: Liquid 7 mL×1. Storage at 4°C.

Reagent III: Liquid 13 mL×1. Storage at 4°C, avoid light. (preheat at 37°C before use.)

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/microplate reader, micro cuvette/96 well flat-bottom plate, balance, distilled water.

Procedure and Sample list

1. Preheat the spectrophotometer/microplate reader for more than 30 min, adjust the wavelength to 645 nm, and set zero with distilled water.
2. Operation sheet

| | Control Tube (A_C) | Test Tube (A_T) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|---------------------|
| Sample (μL) | 30 | 30 |
| Reagent I (μL) | 90 | 90 |
| Reagent II (μL) | 60 | |
| Mix thoroughly, incubate at 37°C for 5 min. | | |
| Reagent III (μL) | 120 | 120 |
| Mix thoroughly, incubate at 37°C for 30 min. | | |
| Reagent II (μL) | | 60 |
| Mix thoroughly, place at room temperature for 5 min, and take 200 μL in micro cuvette/96 well flat-bottom plate. Measure at 645 nm absorbance value, $\Delta A = A_T - A_C$. | | |

Calculations

1. Micro glass cuvette

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.

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

2. 96-well flat-bottom plate

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 0.006 at 37°C in 1 mL reaction system.

$$C_p \text{ activity (U/mL)} = \Delta A \times (V_r \div 1) \div 0.006 \div T \div V_s = \Delta A \div 0.018.$$

T: Reaction time, 30 min;

V_s: Sample volume, 0.03 mL;

V_r: Total reaction volume, 0.3 mL;

1: 1 mL Reaction system conditions.

Notes:

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

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 |