

## Ceruloplasmin (CP) Assay Kit

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

**Operation Equipment:** Spectrophotometer/microplate reader

**Catalog Number:** NA0528

**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 ( $\mu\text{L}$ )	30	30
Reagent I ( $\mu\text{L}$ )	90	90
Reagent II ( $\mu\text{L}$ )	60	
Mix thoroughly, incubate at 37°C for 5 min.		
Reagent III ( $\mu\text{L}$ )	120	120
Mix thoroughly, incubate at 37°C for 30 min.		
Reagent II ( $\mu\text{L}$ )		60
Mix thoroughly, place at room temperature for 5 min, and take 200 $\mu\text{L}$ 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<sub>s</sub>: Sample volume, 0.03 mL;

V<sub>r</sub>: 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:

NA0768/NA0527	Total antioxidant capacity (T-AOC) Assay Kit
NA0767/NA0526	Hydroxyl Radical Scavenging Capacity Assay Kit
NA0766/NA0525	Plant Flavonoids Assay Kit
NA0765/NA0524	Plant Total Phenol (TP) Assay Kit