Ceruloplasmin (CP) Activity Assay Kit

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

Operation Equipment: Spectrophotometer/microplate reader

Catalog Number: BC1305

Size: 100T/48S

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 10 mL×1	2-8℃
Reagent II	Solution 7 mL×1	2-8℃
Reagent III	Solution 13 mL×1	2-8℃

Solution preparation:

Reagent III: Before use, take an appropriate amount of reagent based on the sample size and preheat it in a 37℃ 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/microplate reader, micro cuvette/96 well plate, water bath/constant temperature incubator, balance, distilled water.

Sample Preparation

Serum (plasma): direct detection.

Procedure and Sample List

1. Preheat the spectrophotometer/microplate reader for more than 30 min, adjust the wavelength to 645 nm. The spectrophotometer needs to be zeroed with distilled water.

2. Operation Sheet

Reagent Name	Control Tube (A_C)	Test Tube (A_T)
Sample (μL)	30	30
Reagent I (μL)	90	90

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Reagent II (μL)	60	-
Mix thoroughly, incubate at 37℃ for 5 min.		
Reagent III (μL)	120	120
Mix thoroughly, incubate at 37℃ for 30 min.		
Reagent II (μL)	-	60
Mix thoroughly, place at room temperature for 5 min, and take 200 μL in micro glass cuvette/96 well plate. Measure at 645 nm absorbance value, $\Delta A = A_T - A_C$. Each test tube needs to be provided with a control tube.		

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℃ in 1 mL reaction system.

Cp activity(U/mL)=ΔA×(Vr÷1)÷0.01÷T÷Vs=ΔA÷0.03.

2. 96-well 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℃ in 1 mL reaction system.

Cp activity(U/mL)=ΔA×(Vr÷1)÷0.006÷T÷Vs=ΔA÷0.018.

T: Reaction time, 30 min;

Vs: Sample volume, 0.03 mL;

Vr: 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