

(FOR RESEARCH USE ONLY. DO NOT USE IT IN CLINICAL DIAGNOSIS!)

Ceruloplasmin (CP) Assay Kit

Catalog No.: BC00211

Size: 50T

Please read the instructions carefully before use. If you have any questions or need further help during experiment, please don't hesitate to contact us through the following methods:

✉ Email (Sale)	order@enkilife.com
✉ Email (Techsupport)	techsupport@enkilife.com
☎ Tel:	0086-27-87002838
🌐 Website:	www.enkilife.com

Shelf life: Please refer to the label on the outer package.

Techsupport: In order to provide you with better service, please inform us the lot number on the label of the outer package.

Basic Information

Product Name	Ceruloplasmin (CP) Assay Kit
Detection Method	Colorimetric
Sample Type	Serum
Assay Type	Quantitative
Detection Instrument	Spectrophotometer (540 nm)

Product Introduction

Ceruloplasmin is a copper-containing α_2 glycoprotein and appears blue due to bound copper. It possesses oxidase activity and catalyzes the oxidation of polyphenols and polyamines. Meanwhile, it acts as an antioxidant, inhibiting the formation of lipid peroxides and free radicals in tissues, which plays a vital role especially during inflammation.

Principle

Ceruloplasmin (CP) catalyzes the conversion of o-dianisidine into pale yellow-brown products. A purple-red solution forms after adding stop reagent. The absorbance is measured at 540 nm, and enzyme activity is calculated based on the extinction coefficient of the product.

Components

No.	Components	Size	Note
Reagent 1	Acetate buffer	60 mL×1	Store at 4°C.
Reagent 2	Substrate solution	13 mL×1	Store at 4°C.
Reagent 3	Stop solution	60 mL×2	Store at 4°C.

Storage

The kit can be stored for 3 months under specified conditions.

Preparation

37°C water bath kettle, spectrophotometer, 1 mL optical path cuvette, distilled water

Operation process

	Control tube	Assay tube
Sample (mL)		0.05
Reagent 1 (mL)	0.80	0.80
Reagent 2 (mL)	0.20	0.20
Mix well and incubate in water bath at 37°C for 20 minutes.		
Reagent 3 (mL)	2.0	2.0
Sample or distilled water (mL)	0.05	
Mix thoroughly, leave at room temperature for 5 minutes. Measure absorbance (A) of each tube with spectrophotometer at 540 nm using 1 cm path length cuvette, zero calibrated with distilled water.		

Note: Generally, only 2 to 3 control tubes are required per batch experiment, or replace samples with distilled water for reaction. If samples are obviously colored or opaque, it is recommended to prepare a sample control tube for each specimen, which will halve the detectable sample quantity of the kit.

Calculation

Definition: One international unit refers to the enzyme quantity that catalyzes the conversion of 1 μmol substrate per minute under optimal pH and concentration conditions.

$$\text{CP Activity (U/L)} = \frac{A_{\text{Assay}} - A_{\text{Control}}}{9.46} \times \frac{1}{T} \times \frac{V_{\text{Total}}}{V_{\text{Sample}}} \times 1000$$

Annotation:

V_{Sample} : Volume of sample added, 0.05mL

V_{Total} : Total volume of reaction solution, 3.05 mL

T: Reaction time, 20 minutes

9.46: Absorption coefficient

Precautions

1. It is recommended to use disposable laboratory test tubes for operation.
2. This product is intended for scientific research use only by professionals and must not be used for clinical diagnosis or treatment, in food or drugs, or stored in ordinary residences.
3. This kit is not applicable for chicken serum testing.