SPECTRUM

The Creative Approach to Bioscience

Ceruloplasmin Immuno-Turbidimetry

REF: 592 001 50 test
R1 Buffer Reagent 1 x 20 ml
R2 Antiserum 1 x 3 ml

Intended Use

Spectrum Diagnostics Ceruloplasmin reagent is intended for Quantitative turbidimetric determination of Ceruloplasmin in human serum .

Background

Ceruloplasmin (CER) is a glycoprotein which is synthesized mostly in the liver. It is one of the acute phase protein in inflammation and it is the most important carrier of copper (Cu) in plasma. The Ceruloplasmin molecule binds 6-8 Cu atoms. Ceruloplasmin has antioxidative effect. The most important physiological functions of Ceruloplasmin are the regulation of transport, availability, and redox potential of iron (Fe) as a result of its ferroxidase activity; the antioxidative effect of lipids in the cell membrane, due to the prevention of metal ion-catalyzed oxidation; and the transport of copper.

Assay Principle

This Ceruloplasmin test is based upon the Ceruloplasmin antigen-antibody reaction.

Reagent

R1 Buffer Reagent
Phosphate buffered saline(pH 7.43).
Polyethelene glycol (40 g/L).
Sodium azide (0.95 g/L).

R2 Antiserum
Phosphate beffered saline(pH 7.43).
Polyclonal goat anti-human Ceruloplasmin (variable).
Sodium azide (0.95 g/L).

Materials required but not provided with the kit

1-Standard
Ceruloplasmin concentration is stated on the vial label.

2-***Controls***

Reagent Preparation, Storage and Stability

Spectrum Ceruloplasmin reagents are stable up to the expiry date labeled on the bottles when stored at 2 - 8^{O}C and contaminations are prevented during their use.Once opened the standard is stable for 6 weeks if stored tightly closed at 2 - 8 ºC after use.
For further storage at - 30 ºC divide standard into alicots. Stability 3 months. once thawed never freeze again.

Specimen Collection and Preparation

Fresh serum . Stable 2 days at 2 - 8^{O}C or 3 months at -20^{O}C.
Samples with presence of fibrin should be centrifuged.
Do not use highly hemolized or lipemic samples.Once opened the standard is stable for 6 weeks if stored tightly closed at 2 - 8 ºC after use.

Procedure

Wavelength	340 nm
Temperature	37ºC
Cuvette	1cm light path
Zero adjustment	distilled water

Bring the reagents at 37ºC and pipette:

SYMBOLS IN PRODUCT LABELLING

EC REP	Authorised Representative		Temperature Limitation
IVD	For in-vitro diagnostic use		Use by/Expiration Date
LOT	Batch Code/Lot number		CAUTION. Consult instructions for use
REF	Catalogue Number		
	Consult instructions for use		Manufactured by

	Standard	Sample
Reagent (R1)	400 µl	400 µl
Standard	5 µl	-----
Sample	-----	5 µl

Mix, incubate for 2 minutes and record 1st reading (A1).

Reagent (R2)	60 µl	60 µl

After addition of **R2,** incubate at 37ºC and after 5 minutes record 2nd reading (A2)

Adaptation sheets for several automatic analyzers are available upon request.

Calculation

Generate a reference curve by successive 1 : 2 dilutions of Standard in saline (At Least 4 points are recommended). Use Saline as zero point. Determine Δ absorbance of the sample and each calibrator as following:
Δ absorbance of sample = (A2 - A1) sample
Δ absorbance of each Standard = (A2 - A1) for each Standard
Plot the calibration curve and obtain the result.

Expected Values

Normal values are between 22 - 61 mg/dL.
Each laboratory should establish its own reference range.

Sensitivity

When run as recommended, the minimum detection limit of the assay is 4 mg/dL.

Linearity

Up to 100 mg/dL.
specimens showing higher concentration should be diluted 1/5 using physiological saline and repeat the assay.

Interfering Substances:

Haemoglobin	up to 1000 mg/dL.
Bilirubin	up to 20 mg/dL.
Triglycerides	up to 2500 mg/dL.

Dynamic Range

4 - 100 mg/dL.

Waste Disposal

This product is made to be used in professional laboratories.
Please consult local regulations for a correct waste disposal.
S56: dispose of this material and its container at hazardous or special waste collection point.
S57: use appropriate container to avoid environmental contamination.
S61: avoid release in environment. refer to special instructions/safety data sheets.

References

Poulik, M. D. and Weiss, M. L., in F. W. Putman, Editor, “The Plasma Proteins, vol. 2 second edition, academic press, New York, pp. 52 - 108.

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