

PRODUCT CODE CE004

INTENDED USE
This kit is used for the quantitative determination of Zinc in human serum, Plasma or

CLINICAL SIGNIFICANCE
Zinc is an essential trace metal, which is second only to Iron. It is present in Zinc metalloenzymes e.g. carbonic anhydrase, alkaline Phosphatase, R.N.A and D.N.A polymerases, thymidine kinase, carboxypeptidases and alcohol dehydrogenase. Hypozincemia is a condition where insufficient zinc is available for metabolic needs. The deficiency may lead to Anorexia, Diarrhea and Pneumonia or cognitive and motor function impairment in children. Zinc deficiency during pregnancy can negatively affect both the mother and fetus.

PRINCIPLE
Zinc forms with 2-(5-Brom-2-pyridylazo)-5-(N-propylN-sulfopropylamino)-phenol a red chelate complex. The increase of absorbance can be measured and is proportional to the concentration of total zinc in the sample.

**REAGENT
COMPOSITION ZINC**
MONOREAGENT 0.02 mmol/l
5-Br-PAPS 200 mmol/l
Bicarbonate buffer pH 9.8 170 mmol/l
Sodium citrate 4 mmol/l
Dimethylglyoxime 1%
Detergent

**REAGENT
PREPARATION** The reagent is ready to use.

STORAGE AND STABILITY
The reagents is stable up to the stated expiry date when stored at 2-25° C.

SPECIMEN
Serum, Plasma or Urine.

PRUCEDURE

APPLICATION ON AUTO BIOCHEMISTRY ANALYSERS

BR-160 AUTO BIO CHEMISTRY ANALYSER					
TEST NAME	ZINC		SAMPLE VOLUME	10	
FULL NAME	ZINC				
	PRI.	SEC.	REAGENT VOLUME	R1	R2
WAVE LENGTH	546	630		250	NONE
ASSAY /POINT	1 POINT END	START	END		
		1	20		
DECIMAL PLACE	2				
UNIT	ug/dl				
	LOW	HIGH			
LINEARITY RANGE	0	400			



BR-120 AUTO BIO CHEMISTRY ANALYSER					
TEST NAME	ZINC		SAMPLE VOLUME	10	
FULL NAME	ZINC				
WAVE LENGTH	PRI 546	SEC. 630	REAGENT VOLUME	R1 250	R2 NONE
ASSAY /POINT	1 POINT END	START 6	END 24		
DECIMAL PLACE	2				
UNIT	ug/dl				
LINEARITY RANGE	LOW 0	HIGH 400			

LINEARITY

The reaction is linear up to Zinc concentration of 400 µg/dl.

NORMAL RANGE

Serum/Plasma

Men: 72.6 – 127 µg/dl (11.1-19.5 µmol/l)

Women: 70.0 – 114 µg/dl (10.7-17.5 µmol/l)

(During pregnancy and menstruation, the concentration of zinc can be very low) Children: 63.8 – 110 µg/dl (9.8-16.8 µmol/l)

New born: 49.5 – 99.7µg/dl (7.6-15.3 µmol/l)

Urine

300 – 800 µg/24h

RISK & SAFETY

Material Safety Data Sheet (MSDS) will be provided on request.

QUALITY CONTROL

Control serum of known concentrations should be analyzed with each run.

SYMBOL ON LABELS

IVD in vitro diagnostics	 manufacturing date
LOT lot number	 expiry date
REF catalogue number	 manufacturer
 temperature limit	 instruction for use

BIBLIOGRAPHY

- 1- Johnsen and R.Eliasson. Evaluation of a commercially available kit for the colorimetric determination of zinc. International Journal of Andrology, 1987, April 10 (2):435-440.
- 2- R.Homster,B.Zak, Clin.Chem.31/8,1310-1313 (1985).

