

ZINC

(Colorimetric Test with 5-Brom-PAPS)

Cat.No	Package Size
184 000	2x 50 ml R1 / Standard
184 016	9x 10 ml R1 / Standard

PRINCIPLE

Zinc forms with 2-(5-Brom-2-pyridylazo)-5-(N-propyl-N-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 (concentrations in the test)

1. Monoreagent (ready for use)

5-Br-PAPS	0.02 mmol/l
Bicarbonate buffer pH 9.8	200 mmol/l
Sodiumcitrate	170 mmol/l
Dimethylglyoxime	4 mmol/l
Detergent	1 %

2. Standard 200 µg/dl (30,6µmol/l)

STABILITY

The sealed reagent is stable up to the indicated expiry date if stored at 2° - 25°C.

REFERENCE VALUES

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 - 800µg/24h

SAMPLE MATERIAL:

Serum, Plasma, Urine

LINEARITY:

Up to 400 µg/dl (61,2 µmol/l)

ASSAY PROCEDURE

Wavelength : 560 nm
 Light path: 1 cm
 Temperature : 25°C/37° C
 Pipette into cuvettes :

	Standard	Sample	RBL
Reagent	1000µl	1000µl	1000µl
Sample	-	50µl	-
Standard	50µl	-	-

Mix and incubate for 10 min at 25°C or 5 min at 37°C. Measure against reagent blank (RBL) the absorbance of the sample = A_S , and of standard = A_{STD}

CALCULATION:

$$\begin{aligned} \mu\text{g/dl zinc} &= A_S / A_{STD} \times 200 \\ \mu\text{mol/l zinc} &= A_S / A_{STD} \times 30,6 \end{aligned}$$

CALIBRATION & QUALITY CONTROL

For the calibration of automated analyzers Greiner Multicalibrator is recommended, for quality control use Greiner normal and abnormal controls, Unitrol I and Unitrol II.

LITERATURE:

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.

SYMBOLS USED

IVD For *in vitro* diagnostic medical use

LOT Batch Code

 Use by

 Temperature limitation