Pariksha Biotech
A game changer in IVD

Zinc Estimation Kit

High-Q Zinc-ML

5-Br-PAPS Method

HIGH
Command on Quality

Intented Use:
Kit for the quantitative in vitro determination of Zinc in human Serum, Urine and Seminal Fluid.

Clinical Significance:
Zinc is an essential element in the nutrition of human beings, zinc is required in the genetic make-up of every cell and is an absolute requirement for all biologic reproduction. Zinc is needed in all DNA and RNA syntheses and is required at every step of the cell cycle. About 2 grams of zinc is Distributed throughout the body human. Hypozincemia is a condition where insufficient zinc is available for metabolic needs. The defficiency may lead to Anorexia, Diarrhia and Pneumonia or cognitive and motor function impairment in children.Zinc defficiency during pregnancy can negatively affect both the mother and fetus.
In some cases Hyperzincemia is reported and is attributed to the intake of Zinc containing foods which elevate zinc concentration in blood.

Test principle:
Zinc reacts with 2-(5-bromo-2-pyridylazo)-5-(N-propyl-N sulfopropylamino) -phenol (5-Br-PAPS) to form a red chelate complex in pH = 9.8 . The increase of absorbance measure at 546/600 nm is proportional to the concentration of total zinc in the sample.

Concentrations in the test :

Reagent

Bicarbonate buffer, pH = 9.8	500 mmol/L
5-Br-PAPS	0.03 mmol/L
Sodium citrate	68 mmol/L
Dimethyl glyoxime	4 mmol/L
Detergent	

Standard: The concentration as indicated on vial.
(Lot Specific)

Specimen collection and handling

1. Non-hemolyzed serum is the specimen of choice
2. Collect the blood in a Serum vaccutainer tube
3. Remove serum from clot as soon as possible.
5. Stability in serum: 7 days at 2 – 8 °C.
6. 24/ hr. Urine: Collect in clean, plastic urine container with no metal cap. Refrigerate after completion of collection.
7. Seminal fluid: Centrifuge the sample at 3000 rpm for 10-15 min.
   Stability of the sample 7 days at 2 – 8 °C. Dilute supernatant (1+99) with sodium chloride solution (0.9 %) and multiply the result by 100

Procedure:

System Parameters:

Reaction type	:	End Point
Reaction Slope	:	Increasing
Wave length	:	546 nm
Flow cell Temp.	:	37°C
Sample volume	:	50 µl
Reagent volume	:	1000 µl
Calibrator concentration :		Lot Specific (Check the label)
Units	:	µg/dl
Blanking with	:	Reagent
Low normal	:	45
High normal	:	150
Linearity	:	1000

Assay :

	Blank	Calibrator	Sample
Reagent	1000 µL	1000 µL	1000 µL
Calibrator	–	50 µL	–
Sample	–	–	50 µL

Mix, incubate for 10 min. at 37 °C. Read the absorbance of Standard and Sample against the reagent blank.

Calculations:

$$\text{Conc. Zinc (µg/dl)} = \frac{\text{Abs of sample}}{\text{Abs of Calibrator}} \times \text{Conc. Calibrator (µg/dl)}$$

(Lot Specific)

Linearity:
Up to 1000 µg/dl . If the result exceeds 1000 µg/dl, repeat the test using diluted sample (1+2) with sodium chloride solution (0.9 %) and multiply the result by 3.

Precautions:

1. Use only disposable plastic containers or iron free tubes and cuvettes. Avoid any contamination by the use of clean laboratory material.
2. Reagent contains sodium azide. Don't swallow. Avoid any contact with skin and mucous membranes. Sodium azide may react with lead and copper plumbing to form explosive metal azides. Upon disposal, flush with large amounts of water to prevent azide build up.

Reference range:

Serum:		**µg/dl**
< 4 Months.		**65 - 137**
4 – 12 Months		**65 - 130**
1 – 5 Years		**65 - 118**
6 – 9 Years		**78 - 105**
10 – 13 Years	**Men**	**78 - 98**
	Women	**78 - 118**
14 – 19 Years	**Men**	**65 - 118**
	Women	**59 - 98**
Adults		**45 - 150**
Urine:		**300 – 800 µg/24hr**
		15 – 120 µg/dL (Spot Urine)
Seminal Fluid		**2000 – 10000 µg /dL**

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Note:

Serum zinc levels are generally 5 -15 % higher than plasma levels due to zinc released from platelets and erythrocytes during clotting.

Reference:

1. Johansen and R.Eliasson. Evaluation of a commercially available kit for colorimetric determination of zinc. International Jornal of andrology, 1987, April 10 (2) : 435 - 440.
2. Young, DS., Effects of Drugs on Clinical Laboratory Tests, fifth editiopn 2000, AACC Press, Washington, D.C.

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Order Information:

Ref./Cat. No.	Pack Size	Presentation
P-ZNC - 25	25 ml	Mono Reagent

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Product Features:

- Liquid Stable Mono Reagent
- Linearity : 1000 µg /dL
- Measuring wavelength : 546 nm
- End Point Method
- Calibrator Provided
- Available as multi purpose reagents and dedicated system packs

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Symbols used with IVD devices

	Date of manufacture		Manufactured by
IVD	In vitro diagnostic device		Keep away from sunlight
	Do not freeze		This way up
	Use by (yyyy-mm-dd or mm/yyyy)	R	Reagent
CAL	Calibrator Material	LOT	Batch code
2°C 8°C	Temperature limitation (store at)	CONTROL	Control
	Consult instructions for use		Keep dry Keep away from rain
REF	Catalog Number		

eIFU Indicator

Pariksha's world inside
SCAN TO EXPLORE MORE

Manufactured in India by :
Pariksha Biotech Pvt Ltd,
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