ZINC

Diagnostic reagent for determination of Zinc concentration.

Liquid, 2 Reagents — Store at 2℃ - 8℃
For in Vitro Diagnostic Use — Do not freeze

Cat. No.
ZN2270 ZINC 5X25ML

TEST PRINCIPLE
Nitro-PAPS reacts with zinc in alkaline solution to form a purple colored complex, the absorbance of which is measured at 575 nm. Interference from copper and iron are virtually eliminated by pH and chelating additives.

REAGENTS COMPOSITION
Reagent 1:
Compositions: borate buffer 370 mM pH 8.20, salicylaldoxime 12.5mM, dimethylglyoxime 1.25 mM, surfactants and preservatives.
Reagent 2:
Compositions: Nitro-PAPS 0.40 mM.
Calibrator: lyophilized (value on label) - 3 ml

REAGENTS PREPARATION
Mix 4 parts of Reagent 1 with 1 part of Reagent 2 . For example: 4ml Reagent 1 and 1ml Reagent 2.
Stability of working reagent: 30 days at 2-8℃ and 7 days at room temperature well closed.
Stability of unopened vials: up to expiration date on labels at 2-8℃. Stability since fi rst opening of vials: ≥ 60 days at 2-8℃.

PRECAUTIONS
Reagent may contain some non-reactive and preservative components. It is suggested to handle carefully it, avoiding contact with skin and swallow.
Perform the test according to the general “Good Laboratory Practice” (GLP) guidelines

SPECIMEN
Serum (preferred), plasma heparinate, urine
Sample is stable 7 days at 2-8℃ and 1 month at -20 ℃.

TEST PROCEDURE
Wavelength: 575 nm (allowed 570 ÷ 582 nm)
Light path: 1 cm
Temperature: 37℃

Pipette into test tubes	Reagent Blank Tube	Standard Tube	Sample Tube
Working reagent	1000 µl	1000 µl	1000 µl
Sample	-	-	50 µl
Standard	-	50 µl	-
Mix, incubate at 25, 30 or 37℃ for 5 minutes. Read absorbance of standard (As) and samples (Ax) against reagent blank.			

CALCULATION
Serum/plasma sample:
Zinc µg/dl = Ax/As x 200 (standard value)

LİNEARITY
the method is linear up to 1000 µg/dl.
If the limit value is exceeded, it is suggested to dilute sample 1+9 with distilled water and to repeat the test, multiplying the result by 10.

Sensitivity/limit of detection (LOD)
the limit of detection is 5 µg/dl.

INTERFERENCES
no interference was observed by the presence of:
hemoglobin ≤ 100 mg/dl
bilirubin ≤ 40 mg/dl
Lipids interfere.

Precision

intra-assay (n=10)	mean (µg/dl)	SD (µg/dl)	CV%
sample 1	95.20	1.03	1.10
sample 2	135.70	3.47	2.60
inter-assay (n=20)	mean (µg/dl)	SD (µg/dl)	CV%
sample 1	94.28	3.49	3.70
sample 2	133.40	3.45	2.60

Methods comparison
a comparison between Archem and a commercially available product gave the following results:
Zinc Archem = x
Zinc competitor = y
n = 84
y = 0.902x + 8.81 µg/dl r2 = 0.966

EXPECTED VALUES*
serum: 70 - 150 µg/dl (10.7 - 22.9 µmol/l)
urine: 150 - 1200 µg/24h (2.3 - 18.4 µmol/24h)
*It is recommended that each laboratory establish its own normal range.

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.

QUALITY CONTROL
It is suggested to perform an internal quality control. For this purpose the following human based control serums are available:
"ARCON N“, Assayed Control Serum Normal
Cat.No. A3910
"ARCON P“, Assayed Control Serum Abnormal
Cat.No. A3920

CALIBRATION
Any commercially available Standard or Calibrator suitable for this method may be used.

AUTOMATION
Special adaptations for automatic analyzers can be made on request.

REFERENCES

1. K.Ueno, T.Imamura, K.L.Cheng - Handbook of organic analytical reagents - CRC Press (1992).
2. Akita Abe, Sumiko Yiamashita, Clin.Chem. 35/4, 552-554 (1989).
3. Tietz Textbook of Clinical Chemistry, Second Edition, Burtis-Ashwood (1994).

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