

COPPER urine

Determination in Urine
3,5 - Di Br Paesa Method

3x25 ml + 2x25 ml

REF CP05-125

PRINCIPLE

At pH 4.7 and in presence of ascorbic acid, copper forms with 3,5-Di-Br-PAESA a colored compound, whose color intensity is proportional to the copper concentration in the sample.

REAGENTS

Kit composition:

	REF CP05-125	Quantity
(*) REAGENT 1/A Buffer pH 4.7	CP05-125R1A	3 x 25 ml
REAGENT 1/B (powder) Ascorbic acid	CP05-125R1B	1 vial
(*) REAGENT 2 3,5 - Di Br - PAESA	CP05-125R2	2 x 25 ml
STANDARD (Std) Copper standard 100 µg/dl (15.73 µmol/L)	CP05-125S	1 x 2 ml
SPOON To measure 40 mg of Reagent 1/B		1

STABILITY: stored at 2-8°C, reagents are stable up to the expiration date on the label.

PREPARATION OF REAGENT 1 (1/A+1/B)

Add 3 full spoons of Reagent 1/B into a vial of Reagent 1/A.
Shake gently until complete dissolution.
STABILITY: 30 days at 2-8°C.

SAMPLE

Filtered or centrifuged 24 hour urine.

MANUAL ASSAY PROCEDURE

Wavelength:	582 (570-590) nm
Optical path:	1 cm
Reading:	against distilled water
Temperature:	room temperature
Method:	Endpoint
Reaction:	4-5 minutes
Urine/Reag.1/Reag.2:	10/1/1

Let reagents reach room temperature before use.

Pipette into 4 cuvettes labeled as it follows:

B/R: blank reagent; B/S: blank sample; S: sample; Std: standard:

	B/R	B/S	S	Std
Distilled water	1000 µl	100 µl	----	950 µl
Sample	----	1000 µl	1000 µl	----
Standard	----	----	----	50 µl
Reagent 1	100 µl	100 µl	100 µl	100 µl
Reagent 2	100 µl	----	100 µl	100 µl

Mix accurately and after 4-5 minutes at room temperature read at 570-590 nm (max 582 nm) the blank reagent (Abr), blank sample (Abs), sample (As) and standard (Astd) absorbencies against distilled water.
The produced color is stable for at least 30 minutes.

CALCULATION

copper (µg/dl urine) = [(As - Abs) - Abr / Astd - Abr] x 5

copper (µmol/L urine) = [(As - Abs) - Abr / Astd - Abr] x 0.786

To define copper quantity in µg in the 24 hour urine, multiply the concentration in µg/dl by the 24 hour urine volume in dl.

REFERENCE VALUES

15-70 µg of copper in 24 hour.

PERFORMANCE CHARACTERISTICS

Linearity: up to 20 µg/dl (3.13 µmol/L).

For higher values, repeat the determination on the sample diluted 1:2 and multiply the result by 2.

Within run precision:

	Average (µg/dl)	Level 1	Level 2
DS		2.80	13.6
CV %		0.024	0.165
		0.86	1.21

Between-run precision:

	Average (µg/dl)	Level 1	Level 2
DS		2.55	13.8
CV %		0.030	0.255
		1.18	1.85

Correlation: FAR kit to define copper in urine shows a correlation coefficient of 0.98, in comparison to another kit available on the market.

NOTES

- (*) Dangerous reagents are marked by an asterisk. Refer to MSDS.
- Use plastic disposable test tubes and glassware washed with 1N hydrochloric acid and distilled water.
- Reaction volumes can be proportionally changed.
- Chemistry analyzer parameters are available.

WARNINGS AND PRECAUTIONS



WARNING

Reagent 1A and Reagent 2

H314 Causes severe skin burns and eye damage.

H315 It can cause skin irritation.

H319 Causes severe eye irritation.

In case of contact with the eyes: rinse thoroughly for several minutes. If the irritation continues, see a doctor.

REFERENCE

- K. Komleh, P. Hada, A.K. Pendse, P.P. Singh International Urology and Nephrology, Vol. 22, N° 2, (1990), 113-118.

MANUFACTURER



FAR

Via Fermi, 12 - 37026 Pescantina - VERONA - ITALY

tel +39 045 6700870

website <http://www.farddiag.com>

e-mail: order@farddiag.com e-mail: farddiag@farddiag.com

KEY SYMBOLS

	In Vitro diagnostic medical device
	batch number
	catalogue number
	temperature limits
	use by
	caution
	consult accompanying documents

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