PHENOLS

Colorimetric quantitative determination of phenolic compounds on urine

50 tests **REF CM07-50T**

INTENDED USE

Kit for quantitative *in vitro* determination of Phenolic Compounds on urine.

PRINCIPLE

In alkaline medium, phenolic compounds react with a 4-aminoantipyrine condense. The developed product is oxidized with ferricyanide, forming a red color complex which can be measured photometrically.

PURPOSE OF THE TEST

The determination of urinary phenolic compounds is a useful diagnostic assay for patients with supposed hyperthyroidism, mellitus diabetes caused by hyperthyroidism, tumors producing catecholamines and its metabolites. This method can also be used as a screening test in supposed benzene intoxication.

REAGENTS

Kit components:	REF CM07-50T
REAGENT 1 4-aminoantipyrine	**CM07-50R1: 1 x 80 ml**
REAGENT 2 Ferricyanide	**CM07-50R2: 1 x 80 ml**
* **REAGENT 3** Extraction solution	**CM07-50R3: 2 x 90 ml**
STANDARD Phenol 500 mg/L	**CM07-50TS: 1 x 3 ml**

(*) Dangerous reagents are marked by an asterisk. Refer to MSDS.

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

REQUIRED EQUIPMENT

Centrifuge, spectrophotometer or filter photometer at 460 nm (450 - 500 nm).

DILUTION OF THE STANDARD

Dilute the standard 1:10 with distilled water, to get a standard with a 50 mg/L concentration.

STABILITY: 1 month at 2-8°C.

SAMPLE

24-hour urine.
NOTICE: store the urine at 2-8°C and perform the assay as soon as possible.

MANUAL ASSAY PROCEDURE

Wavelength:	460 nm (450 – 500 nm)
Optical path:	1 cm
Reading:	against blank reagent
Temperature:	room temperature
Method:	colorimetric endpoint
Linearity:	up to 200 mg/L
Minimum sensitivity:	0.1 mg/L
C.V. (intra-assay):	2.77 %

Pipette into 3 centrifuge tubes labeled as follows:

	Blank Reagent	Sample	Standard
Distilled water	0.2 ml	---	---
Sample	---	0.2 ml	---
Diluted standard	---	---	0.2 ml
Reagent 1	1.5 ml	1.5 ml	1.5 ml

Mix thoroughly and add:

Reagent 2	1.5 ml	1.5 ml	1.5 ml

Mix carefully and let it stand for 3 minutes. Then add:

Reagent 3	3.5 ml	3.5 ml	3.5 ml

Shake and centrifuge at 2500-3000 rpm for 5 minutes. Read the supernatant absorbances (Ac e Astd) against the blank reagent.

CALCULATION

Phenols (mg/L) = (Ac / Ast) x 50
Phenols mg/litro x L of 24 h urine = Phenols mg/24 hours

REFERENCE VAUES

Up to 50 mg/24 hours.

PERFORMANCE CHARACTERISTICS

Sensitivity: the sensitivity of the method is 0.1 mg/L.

Linearity: up to 200 mg/L.
For higher values, dilute the sample 1:10 with saline solution and multiply the result by 10.

Precision:

Between run (n=10)	Mean [U/L]	CV %
Sample 1	300	2.9
Sample 2	100	2.7

Correlation against a reference method: the correlation of FAR method (Y) against a reference method (X) gives a correlation of 0.9856

DISPOSAL

The product must be used for professional assay only. Dispose of the product according to national/international laws.

WARNINGS AND PRECAUTIONS

REAGENT 1 and REAGENT 2: Not dangerous

STANDARD
Advisory: Danger
Hazard Statements:
H315 Causes skin irritation.
H319 Causes severe eyes irritation.
H335 May cause respiratory irritation.

NOTE

Comparing FAR kit (y) with Yamaguci and Hayashi method to define phenols, the obtained correlation coefficient is 0.985.

REFERENCE

1. Y. Yamaguchi et C. Hayashi, Clin. Chem., 23/11, 2151-2154 (1977)

KEY SYMBOLS

IVD	In Vitro diagnostic medical device
LOT	batch number
REF	catalogue number
	temperature limits
	use by
	caution
	read instructions for use

IVD CE

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MANUFACTURER

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