Dynamic Test Kits for R&D and Quality Control

OXALATE ASSAY KIT

Enzymatic colorimetric determination of oxalic acid in urine

References: OXALATE-20 (20 tests)
OXALATE-100 (100 tests)

TEST SUMMARY

Oxalic acid is transformed, by oxalate oxidase, in hydrogen peroxide, that, reacting into Trinder system, produces a blue coloured compound.

SAMPLES

24 hours urine.
If analysis is not performed immediately, acidify urine of 24 hours with 10 ml of HCl concentrated.
Stability: 7 days at 2-8°C.

REAGENTS

Reagent 1	Succinic buffer pH 3.80; 3-(Dimethylamino) Benzoic acid, preservatives and stabilizers.
Reagent 2	Succinic buffer pH 3.80; preservatives and stabilizers
Reagent 3	Oxalate oxydase, peroxydase, preservatives and stabilizers.
Standard	Oxalate 0.5 mM, preservatives and stabilizers.
Sample diluent	Buffer pH 7.0 EDTA, preservatives and stabilizers.
Purification tubes	Active coal.

MATERIAL REQUIRED BUT NOT SUPPLIED

Normal laboratory equipment. Spectrophotometer UV/VIS with thermostatation. Automatic Micropipette. Cuvette in optical glass or monouse in optical polystyrene. Distilled water.

PRECAUTION

Reagent may contain not reactive and conservative components. It is opportune to avoid contacts with the skin and do not swallow.
Perform the test according to the general "Good Laboratory Practice" (GLP) guidelines.

REAGENTS PREPARATION

Reconstitute Reagent 3 with 2 ml of distilled water. All reagents are stable until expiration date on label if stored at 2-8°C.
Reagent 3 reconstituted is stable 1 month at 2-8°C.
Is possible to pre-mix Reagent 1 with Reagent 2 in equal parts. Stability: 1 month at 2-8°C.

SAMPLES PREPARATION

Mix 1 ml of urine with 1 ml of sample diluent.
Control pH and if needed, correct with HCl 1N or NaOH 1N up to obtain a value between 5.0 and 7.0.
Pour out this mixture in a purification tube.
Shake very well for 5 minutes with continuous inversion or using a rotating stirrer. Centrifuge or filter.

PROCEDURE

Method:	End point
Reading time:	10 minutes
Wavelength:	590 nm (580-600)
Temperature:	25, 30, 37°C
Path length:	1 cm
Zero:	Blank reagent

Reagents	Blank	Standard	Sample
Reagent 1	500 µl	500 µl	500 µl
Reagent 2	500 µl	500 µl	500 µl
Distilled water	50 µl	--	--
Standard	--	50 µl	--
Sample	--	--	50 µl
Reagent 3	100 µl	100 µl	100 µl

Add at the end, Reagent 3; shake very well and incubate for 10 minutes. Bring to naught against blank and read extinctions.

CALCULATION

Oxalic acid (mM)

(A sample/A standard) x 0.5 x 2

Oxalic acid (mmol/24 h)

(A sample/A standard) x 0.5 x 2 x l of urine

EXPECTED VALUES

Men:
0.08 - 0.49 mmol/24h (7 - 44 mg/24h)

Women:
0.04 - 0.32 mmol/24h (4 - 31 mg/24h)

Children:
0.14 - 0.42 mmol/24h (13 - 38 mg/24h)

Every laboratory should establish own reference intervals in accordance with own population.

NOTE

- If you want to obtain value worded in mg, multiply results in mmol by 90.
- If the results are incompatible with clinical presentation, they have to be evaluated within a total clinical study.
- Only for IVD use.

CALIBRATION/QUALITY CONTROL

It's advisable to perform an internal quality control. In order to do this, on request are available the following control solutions:

CODE CONTROL-OXACIT **6 x 5 ml**
Control Set Oxalic acid / Citric acid
(Normal value – Pathologic value)

TEST PERFORMANCE

Precision

Intra-assay (n = 15)	Mean (mmol/24h)	SD (mmol/24h)	CV%
Sample 1	0.105	0.004	4.18
Sample 2	1.048	0.025	2.43

Inter-assay (n = 20)	Mean (mmol/24h)	SD (mmol/24h)	CV%
Sample 1	0.106	0.007	6.91
Sample 2	1.041	0.050	4.84

Linearity
Method is linear up to 1 mM.

Methods comparison
A comparison with an available commercial method gave following results on 40 samples compared:

Oxalic acid Libios kit = y
Oxalic acid competitors = x
n = 40

y = 0,985x + 0,008 r = 0,9978

Interferences
High concentrations of Ascorbic acid interfere with the test determination.

WASTE DISPOSAL

Product is intended for professional laboratories. Waste products must be handled as per relevant security cards and local regulations.

PACKAGING

Reference: OXALATE-20	**(20 TESTS)**
Reagent 1	1 x 10 ml (liquid)
Reagent 2	1 x 10 ml (liquid)
Reagent 3	1 x 2 ml (powder)
Standard	1 x 5 ml (liquid)
Sample diluent	1 x 20 ml (liquid)
Purification tubes	20

Reference: OXALATE-100	**(100 TESTS)**
Reagent 1	1 x 50 ml (liquid)
Reagent 2	1 x 50 ml (liquid)
Reagent 3	5 x 2 ml (powder)
Standard	1 x 5 ml (liquid)
Sample diluent	1 x 100 ml (liquid)
Purification tubes	100

Additional products available:

Reference: OXALATE-EXT	**(Extraction kit)**
Sample diluent	1 x 100 ml (liquid)
Purification tubes	100

Reference: OXALATE-SD
Sample diluent 4 x 100 ml (liquid)

Reference: CONTROL-OXACIT
Control set 6 x 5 ml (liquid)
Oxalic acid / Citric acid

REFERENCES

M.F. Laker e coll. Clin. Chem. 26 287 (1980).

SUPPLIER

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